THE NEW-YORK

JOURNAL OF MEDICINE

FOR MAY, 1856.

PART FIRST.

ORIGINAL COMMUNICATIONS.

ART. I.—*Necrosis of Inferior Maxilla from the Vapor of Phosphorus.—Removal of the Entire Lower Jaw—Recovery—Remarks upon Phosphorus Disease.* By JAMES R. WOOD, M.D. Surgeon to Bellevue Hospital, New York; etc., etc. With Illustrations.

CASE.—Cornelia S., born in Germany, aged 16; admitted into Bellevue Hospital, December 17, 1855. She came to this country at the age of three months; eight and a-half years ago her father died of phthisis; four years ago her mother died of fever. She has enjoyed good health up to the time of her present trouble. Two and a-half years ago she commenced to work in a match factory on Second Avenue, in this city, where she remained six or seven months. She then left this factory and entered another on Norfolk-street, where ventilation was very imperfect. Her business was "packing," the "dipping" being done in another apartment. She continued at her occupation, working eight hours a-day, and feeling perfectly well, until about the 1st of May, 1855. At that time she was seized with toothache, and swelling on the right side of the lower jaw. To relieve it, her gums were lanced, and, finally, the tooth extracted. After this the pain ceased; but the swell-

ing gradually increased, until a spontaneous opening formed on the under side of the jaw, with a discharge of pus, which has continued since. She remained in the factory until one week previous to her admission into the hospital.

Upon examination after her admission, the inferior maxilla was found necrosed on the right side, and partially on the left. Her general health was good. The jaw was painful, and that side of the face swollen. The discharge was at times profuse, and a part of it took place through the buccal cavity, rendering it very annoying. Her appetite was good, but mastication difficult and painful. She never had had syphilis. The necrosis gradually extended, but her general condition remained good.

On the 19th of January, 1856, thirty-three days after her admission, I proceeded to remove a portion of the necrosed bone upon the right side, intending to leave both the symphysis to which the lingual muscles are attached, and the ramus of the jaw. No anæsthetic was used. The patient was placed on the operating table, with her head and shoulders elevated, and her face turned towards the left side. The external incision commenced midway between the angle and condyle of the right side, and extended along and under the base of the jaw, terminating one quarter of an inch below the symphysis menti. The soft parts were next divided, and the periosteum carefully separated from the bone. A chain saw was then passed under the jaw into the mouth, half an inch to the right of the symphysis, and the bone sawn through. The saw was again passed under the jaw, at its angle, for the purpose of dividing the bone at this point, but, unfortunately, on attempting to work it, the chain broke. I now seized the bone at this point with Liston's forceps, and endeavored to divide it, when it was readily discovered, in this attempt, that the jaw was necrosed to its articulation. I then endeavored, with the forceps, to remove the jaw entire upon the right side, and succeeded, with considerable effort, in completely enucleating it from its periosteal covering.

But little hæmorrhage occurred, and no vessel required the ligature. The parts were brought in apposition with sutures, and adhesive strips and cold water dressings applied.

January 20.—Pulse, 90; no pain; slept well last night.

January 22.—Wound dressed for the first time; a small part had united by first intention, the remainder in good condition; no pain.

January 26.—Wound entirely healed. An old fistula on the right side, still continues to discharge purulent matter.

While the right side had so greatly improved and apparently left no remnant of the former trouble, the disease was extending upon the left side, involving new portions of the jaw, and giving rise to an immense secretion of intolerably offensive pus. It was, therefore, deemed advisable to attempt the removal of the remaining diseased mass. Accordingly, on the 16th of February, twenty-eight days after the first operation, I removed the remainder of the jaw. The whole of the opposite side I thought dead or dying. At the symphysis it had almost separated itself from the soft tissues, leaving only slight attachments for the lingual muscles. In removing this side of the jaw I designed to leave that part of the symphysis to which these muscles are attached, partly to avoid the liability of the patient's tongue receding into the larynx, but principally to leave an isthmus which should preserve the contour of the chin, and serve as a point of departure for new bone, which would form the periosteum, thus far carefully preserved.

The external incision was similar to that of the opposite side, except that it terminated one-half an inch below and to the left of the symphysis, leaving half an inch of healthy tissue between it and the other cicatrix. The soft parts were next divided, and, with the periosteum was dissected from the bone, both on its external and internal surfaces, as in the previous operation. An assistant now took hold of the symphysis, and a chain saw was passed under the jaw into the mouth, from half to three-fourths of an inch to the left of

the symphysis. My object in sawing through the bone to the left of the mesial line, was to prevent the accident previously mentioned; but, unexpectedly, the moment the bone was divided, the central portion left at the chin escaped from its attachments, by simple enucleation, into the hand of the assistant, and the tongue was immediately swallowed. Respiration instantly ceased, and suffocation impended; but, with a pair of strong forceps, the tongue was seized and replaced, and a ligature passed through it, and secured externally. It was now ascertained that that portion of bone above the angle, was not necrosed, as on the opposite side; but it was decided that the disease could not be arrested, without its entire removal. To complete the operation, the soft parts were separated from the ramus in conjunction with the periosteum, the capsular ligament was opened anteriorly, and a chisel passed over and behind the condyloid process, and by this means the bone was disarticulated. Not a single vessel was tied. The wound was dressed with sutures and adhesive strips. Twenty drops of laudanum were ordered, to procure sleep.

February 17.—Pulse 112; slept well; wound glued together throughout its whole extent; considerable swelling, but no redness or increase in temperature. Left eyelid œdematus and closed. Wound re-dressed with adhesive strips, and lotio plumbi et opii applied.

February 18.—Face much swollen; some pain over region of the jaw; pulse, 138, and irritable; wound united more firmly, except about half an inch near an old fistulous opening, which discharges pus and saliva. Four ounces of wine ordered to be given during the day—and the lead and opium wash continued.

February 19.—Pulse, 100; pain and swelling greatly diminished. Left eye partially open—continue treatment.

February 20.—Pulse, 98; no pain; some œdema of palpebræ. Eye easily opened; wound united by firm adhesions throughout its whole extent; no fistulous openings on left side of the face. Appetite good; diet consists of soups and

farinaceous substances; unable to masticate solid food—continue the lead and opium wash.

February 21.—Swelling of face nearly subsided; eye open; ligature in tongue removed.

February 23.—Swelling entirely subsided. The contour of the face is perfect. All the movements of the tongue, and those pertaining to the jaw, are preserved—such as protrusion of the tongue, lateral motion, deglutition, etc.

From this time until the 4th of March, the patient did well, and every thing seemed to favor a permanent and radical cure. On the 4th, she went out on a visit to her friends. She was thinly clad, and suffered from the cold. The next day, March 5, the left side of her face was swollen, hot, and painful. She had some thirst, a light fur on the tongue, and an accelerated pulse—ordered a cathartic, with lead and opium wash.

March 6.—Patient feels much better; all inflammatory symptoms have subsided. Two fistulæ have formed in the track of the cicatrix, which are discharging healthy pus—ordered a light flaxseed poultice.

March 12.—Two small pieces of bone discharged through the fistulous openings.

March 20.—Fistulæ entirely closed.

During the progress of the case no unfavorable symptoms appeared. The incisions healed with remarkable rapidity. The patient had a good appetite during the whole time. The contour of the face is preserved with remarkable accuracy. The cicatrices are entirely concealed from a front view, and all the motions pertaining to the jaw and tongue are unimpaired. New bone began early to form, and small pieces have already separated.

The accompanying illustrations exhibit, accurately and beautifully, the appearances of the inferior maxilla, when the different portions of the bone were properly united, and also the amount of deformity which remains after the removal of such an integral portion of the skeleton frame-work of the face.

I take this occasion to acknowledge my indebtedness to Dr. Geo. Amerman, house surgeon to Bellevue Hospital, for his attention to my patient, and the foregoing details of the case.

Remarks.—Phosphorus disease, or necrosis from exposure to the fumes of phosphorus in the manufacture of lucifer-matches, was first noticed in Germany. Lorinser, of Vienna, published the first account of this disease in 1845, and reported a number of cases. Soon after, Heyfelder, of Erlangen, and Strohl, of Strasburg, published cases; and in 1847, Drs. Von Bibra and Geist,* published a separate work. In the following year, accounts of the disease were published in England; and in noticing a case, in the surgical reports of Guy's Hospital (1846–47), of separation and exfoliation of the lower jaw, from exposure to phosphorus, in the manufacture of lucifer-matches it is stated, that the disease was previously noticed to be not uncommon in those working in phosphorus. Mr. Stanley alludes to this disease in his Treatise on Diseases of Bones. Cases have been occasionally reported in English periodicals; and in the *Lancet* for 1850, (vol. i., p. 41,) there is an interesting clinical lecture, by Mr. Simon, on this subject, with the full details of a case. Phosphorus disease does not seem to have been frequently noticed in this country, if we may judge by reported cases; yet the causes exist among us in all their intensity. I am aware, indeed, of but a single case which has been placed on record, and that was observed by Dr. Bigelow, of Boston. That this disease is more prevalent in this country, than might be inferred from this single case, is evident from the several cases appended to this paper, which I have been able to collect, and the case kindly communicated by Dr. Van Buren.

As this affection has not been brought before the American reader in any detail, the following summary of what is known

* *The Diseases of the Workmen employed in Lucifer-Match Manufactories, and especially the Affection of the Maxillæ, produced by the vapors of Phosphorus, etc.* By F. ERNST VON BIBRA, PH.D., and LORENZ GEIST, M.D., Erlangen, 1847. See also *British and Foreign Med. Chir. Rev.*, 1848, vol. i., p. 446.

of its nature, progress, and results, may not be inappropriate in this connection:—

That phosphorus is the destructive agent in this disease, has been proved by experiments upon animals. Rabbits exposed to the fumes of phosphorus, under circumstances similar to those which determine the disease in man, are similarly affected. Another fact seems clearly established, viz.: the vapor of phosphorus must come into immediate contact with the periosteum or bone, in order to excite the morbid process. This explains, in the first place, why but few, comparatively, are affected who work in these manufactories; and, in the second place, why the lower jaw is more frequently the seat of the disease than any other bone. For it appears that those only suffer who have decayed teeth—the defect in the teeth allowing the fumes of phosphorus to penetrate to the periosteum. So important is this latter fact, that the government of Erfurt has passed a decree, that no person having decayed teeth shall be allowed to work in lucifer-match factories. In a factory in this city, no workman is allowed to return to his work for a week, after the extraction of a tooth.

That particular part of the work which gives rise to the greatest quantity of vapor of phosphorus is the most dangerous to operatives. This occurs in the process of preparing the paste, and in dipping. In the first process, a high degree of heat is necessary, and large quantities of the fumes of phosphorus are given off, which fill the rooms. In the second, the paste is spread upon a metal plate, with a temperature sufficiently high to keep it liquid, over which the dipper stands, and necessarily inhales the vapor which arises. Where the ventilation of the establishment is well conducted, the "dipper" is the only operative affected by the phosphorus; but where the ventilation is bad, and the fumes of the phosphorus, disengaged, not only during the process of mixing and dipping, but also in counting and packing, are confined, workmen engaged in other departments are similarly affected. This fact finds striking confirmation in the history

of lucifer-match factories of this city. In the old factory in Twelfth-street, the ventilation was poor, and the mixing room was in communication with the work room. As a consequence, whenever the paste was prepared, the whole room became filled with the suffocating vapor of phosphorus. In this establishment, phosphorus disease seems to have been not uncommon. In the new factory, the phosphorus room is in a separate building; and so perfect is the ventilation, that there is scarcely a smell of phosphorus in the building. No case has yet occurred in the new factory.

The general effects of phosphorus upon the workmen in these factories, are differently stated by different writers. The German authors do not seem to refer the diseases of operatives to this cause; but, on the contrary, regard the laborers in these establishments, as healthy as those in any other. French writers, however, ascribe to the inhalation of the fumes of phosphorus, certain bronchitic affections under which this class of persons are found to labor. English observers agree with the German, in regarding phosphorus vapor as harmless to the individual; and some even allege that the operatives in these factories, enjoy better health than before entering them. I have not been able to learn that the workmen, in these factories in this city, suffer unusually from bronchitis, or indeed any other affection which could be traceable to phosphorus, except the disease under consideration. Two intelligent medical students from my office, Messrs. Bird and Johnson, have visited the lucifer-match establishments of New York, and have been kindly received by the proprietors, who gave them every opportunity to thoroughly examine the premises. In their report to me, with the appended cases which they were able to collect, the following note is made of the appearances of the operatives:—"They seemed as healthy as those of our cotton factories in Lowell, or our woolen factories in Lawrence, or our flax factories in Andover, Mass."

The peculiar form of disease here considered, is a periostitis. It has been a question,—whether the disease is excited

by direct contact of the phosphorus with the periosteum, or whether it does not first enter the blood, contaminate the system, and secondarily induce necrosis. This question would seem to be definitively settled by the following considerations: 1.—Operatives exposed to the fumes of phosphorus do not suffer from any special or general malady, showing contamination of system, or the existence of a cachexia. 2.—The disease attacks only denuded bones. So well established is the fact, the operative is considered safe until he has carious or extracted teeth.

We consider it established then, that the phosphorus must find access to the periosteum, when the morbid process is set up. It more often affects the maxillary than other bones, for this reason; and the inferior maxilla than the superior. That other bones are equally affected, when the phosphorus vapor reaches the periosteum, is proved by experiments upon animals.

The frequency with which the different bones of the face are affected in this disease, is exhibited by the following collection of cases:—

Whole No.	Max. Sup.	Max. Inf.	Max. Sup. and Inf.
66.	22.	36.	8.

The pain of the jaw, which ushers in the disease, is generally mistaken for toothache. It is usually slight at first, and intermittent, and is due to the slow process of periosteal inflammation which results in the formation of a lamina of bone beneath the periosteum, and around the old bone. This takes place around the base of the jaw, owing to the gravitation of the exudation from the inflamed periosteum. This, the first stage, is chronic and may be indefinitely prolonged, without causing much inconvenience to the patient. The second stage begins with an attack of acute inflammation in the diseased part, excited by cold, or otherwise; there is great pain and swelling of the soft parts; the new formation is destroyed, and discharged, with an abundance of offensive pus; and the old bone remains a sequestrum in the midst of the products of suppuration, to be subsequently discharged

in successive portions. This stage is attended with great suffering and constitutional disturbance; and not unfrequently patients die from exhaustion during this process of suppuration, or from gangrene of the soft parts. If the disease pass on unarrested, the jaw becomes more and more involved, large portions exfoliate, and the whole finally becomes implicated. Few survive to this period, and a still less number witness the completion of the morbid process, in the discharge of the entire jaw. Mr. Stanley exhibited a patient of St. Bartholomew's Hospital, suffering from this disease, whose entire lower jaw had exfoliated, excepting one condyle.

The prognosis in these cases is very unfavorable. When the disease first comes under notice, the periosteal inflammation has generally long existed, and new formations already separate the bone from its covering. More frequently the suppuration is established, exfoliations of bone are taking place, and the whole morbid process is in active progress. The system now breaks down under the exhausting discharges and poisonous emanations from the jaw; and the miserable subject of this destructive disease, falls a victim to its inroads upon his strength, long before the completion of the process of exfoliation.

The regeneration of bone, in cases where extensive necrosis of the jaw occurs, or where it is entirely removed, as in the present instance is an interesting and practical question. From the investigations of Von Bibra and Geist, we learn that the new deposit derives its nutrition from the periosteum only, and is, therefore, the product of this membrane. Unlike callus, it has no communication of the Haversian canals with the bone upon which it lies, while its medullary canals are vertical to those of the bone. They conclude that the new formation has a lower degree of development than true bone. The following is the average of several analyses of bone and the deposit, made by these authors; and, considering the authority of Von Bibra in the chemical examination of bone, they are worthy of note:—

Bone.		Deposit.	
Organic constituents	31·42	Organic constituents	38·16
Inorganic "	68·58	Inorganic "	61·84
	100·00		100·00

The excess of organic matter in the deposit is striking, and it would be interesting to know in what relation this deposit stands to the new bone. Some authors doubt the possibility of new bone being formed in these cases; but the case under consideration proves their reasoning untrue. Although there may not be a complete regeneration of bone, the reproduction has evidently begun, and small portions have already separated. As the periosteum, for the most part, still remains, there seems no reason why new bone should not be formed; unless the peculiarity of the periosteal inflammation excited by the phosphorus prevents it. The fact just stated, that bone, or a substance strikingly resembling it, already exists in the track of the bone removed, refutes the supposition.

The treatment of this affection in the early stage is that adapted to periostitis, and in the later stage, necrosis. Free incisions of the gums, both to relieve the tension which results from inflammation of the periosteum and to procure local depletion, will be required. These incisions should be made wherever there is inflammatory swelling, and freely down to the bone. General antiphlogistic remedies will be useful, according to the condition of the patient. When suppuration is established, tonics should be freely administered, to sustain the general health, and exercise in the open air enjoined; locally, detergents may be used with benefit; such as, gargles containing astringents,—myrrh, or chlorides, as the individual case may demand. These measures, however, are but adjuvants in the process of exfoliation.

In the advanced stages, where necrosis has taken place, and nature is endeavoring to separate the sequestrum, an opposite plan of treatment is indicated. An immense discharge of fœtid matter issues from the diseased gums, rendering the patient's life miserable, and disgusting to his attendants; his system gradually gives way, and death almost inevitably

closes the scene, unless art comes to the assistance of nature. In this, the last stage of the affection, surgical interference seems imperatively demanded. I am aware that some surgical authorities advise to leave these cases to nature, and simply sustain the system. But if we had not reason and experience in analogous diseases to guide us in this last extremity, we certainly have in the case already detailed a clinical fact worthy of consideration. The benefit which this patient derived from surgical interference was never surpassed in my experience. The first operation was followed by the most decided improvement of her general condition, and the last has restored her to comparative health. I should, therefore, always advise to remove the dead bone as early as possible, and thus relieve the system of a source of great irritation, which nature labors long and often ineffectually to accomplish. If this is judiciously effected, and the general health preserved, we may confidently anticipate that by a regeneration of the osseous tissue, not only will the deformity be inconsiderable, but the functions of the inferior maxilla will, to a considerable extent, be preserved.

Case 2.—(Communicated by Dr. Wm. H. Van Buren.)—James O'Donnell, a native of this city, 24 years of age, was admitted to the N. Y. Hospital on the 21st of February, 1856, with necrosis of the left side of the lower jaw, accompanied by very considerable swelling, hard to the touch, and presenting the shape and general physiognomy characteristic of necrosis of the lateral portions of the inferior maxilla. He was able to open his mouth to the extent of half an inch only. Several of the teeth were loose, and pus could be forced by slight pressure from around their sockets.

In regard to his general condition, the patient seemed to be suffering from extreme debility; he could hardly arise from a sitting to a standing position without assistance, and walked with difficulty.

On inquiring into his previous history, it was found that he had been employed in (Hyatt's) a lucifer-match factory, on the corner of Broadway and one of the upper streets (36th) for

a number of months—that his health was excellent when he commenced work in this establishment, but had gradually failed; and that six weeks previously, the soreness and swelling had first made their appearance in the jaw. He stated, voluntarily, that several other persons employed in the manufactory were suffering from complaints similar to his. The fœtor and difficulty of utterance in this case, together with the low grade of intelligence of the patient, prevented his attendants from getting as thorough a history of his case as they desired.

In view of the recent character of the disease of the jaw, and the bad general condition of the patient, he was ordered cod-liver oil, with iron, and an appropriate mouth-wash; several of the loose teeth were also removed, and a sympathetic abscess, which had formed below the jaw, was opened. Before the limits of the disease could be ascertained, with a view to relief by surgical means, the patient was removed from the hospital, on the 29th of March—the only changes in his condition comprising an improved state of his general health, and local relief, mainly in consequence of a new outlet for the discharge.

Case 3.—Catherine Karker, aged 21, born in Germany; single, poor, and moving in the lower ranks of life. Her occupation is that of filling match-boxes, at which she has been occupied since nine years of age; the disease began in the old factory, which was very badly ventilated. The whole lower jaw is involved. The disease began at the second molar tooth; she had a tooth extracted, and went back to work the same morning. The tooth was but decayed; and she had it extracted because it pained her. There was no disease previous to losing her teeth. She was under treatment by Dr. Ware, who removed pieces of bone several times.

Case 4.—Elizabeth Karker, aged 25, born in Germany; single, sister of the above. She is occupied in filling frames, and has been thus engaged twelve years. The lower jaw is involved; the disease has extended throughout the whole

jaw. She says that the bone was removed to the middle of the chin at one operation. It commenced from having a tooth pulled; the dentist tore up a long strip of flesh, about the length of the index finger, attached to a piece of the bone. She entered the factory the next day; and from this date the disease commenced. A part of the stump is left. She had no disease previous to losing the tooth. She is under the treatment of Dr. Ware. An incision has been made at the articulation in a crucial form; the parts appear much deformed. This patient is now well, and pursues her avocation at the same factory, while her sister is still sick.

Case 5.—Catherine Brivogel, German; poor, single; aged 19 when disease commenced; it lasted for three years. Her occupation was that of dipper, which she followed nineteen months—during all this time her mouth was sore; she left at the end of nineteen months, and returned again in six months; ventilation of the factory was bad; in her case both jaws are involved; about half of left side of upper, and nearly same on lower, of the right side. The disease began in the upper jaw, about the first molar; she removed, herself, about half of the upper jaw, with the floor of the antrum still *in situ*—this piece she still keeps and exhibits; it has one tooth, the last molar, still remaining. She exhibits, also, thirteen teeth which she had extracted, and which were otherwise perfectly sound. The disease commenced from fracture of the jaw, while having a tooth extracted; there was pain in the jaw, but no disease previous to losing her teeth. She has been under the treatment of various physicians, among whom was Dr. Ware. She is now well, and has four teeth in the remaining portion of the lower jaw.

Case 6.—Mrs. Hellman, German; aged 25; when between seventeen and eighteen years of age, the disease commenced, and lasted eighteen months. She was engaged in filling boxes from the time she was a little girl. Her lower jaw was involved upon the left side, from the first canine tooth to the last molar. The disease began from a fracture of the jaw, while having a tooth extracted—she had it removed because it was

crowded; she then caught cold, and inflammation occurred, followed by a discharge of pus. She had no toothache or pain in the jaw. There was no disease previous to having the tooth extracted. She was under the treatment of Dr. Ware, who removed the piece of bone.

These four cases were all from the same factory.

Case 7.—Julia Hatter, aged 20, German; single, poor; occupied as dipper for two years; lower jaw involved; left side first invaded, extending from first canine tooth backward; there is a fistulous opening through the skin, and free suppuration. She had a decayed tooth extracted for toothache; had no disease previous to having tooth drawn. This case is still going on, and is from a different factory.

The following cases are from the same factory as the patient whose case is given at length above.

Case 8.—Charles Jacobs, aged 27, German by birth, unmarried; resident in this country seven years; has been engaged in a lucifer-match factory five and a-half years. The particular branch of the business in which he was employed was making the paste, on account of which, he was much exposed to the vapor of phosphorus.

His disease commenced, about four years ago, with a simple toothache. This tooth, the last molar but one, was not decayed; but in the attempt to extract it, the crown was broken off. He returned directly to his work, without waiting for the wound to heal. The pain in the jaw did not cease, but gradually increased in severity. Suppuration was soon after established, and small fragments of bone were discharged. Necrosis of a large portion of the left side finally took place, and a considerable part of the jaw, from the symphysis to the articulation, was removed by a physician. Improvement of the general health followed this operation, and the parts cicatrized perfectly. The disease, however, still continued to extend upon the opposite side, involving new portions of the jaw in necrosis. His general health continued very good; and he was able to pursue his work, with but occasional interruptions.

At the present time, the remainder of the jaw seems to be involved. The discharge of offensive matter is very great; loose sequestra can be felt along the track of the jaw; the patient's general health is failing, and there is evidence that, if the diseased bone is not removed, the case may terminate fatally before exfoliation is complete.

Case 9.—Amelia Miller, aged 21, born in Germany; has resided in this country eight years. She commenced work in the factory two years since, when nineteen years of age, and was then enjoying robust health. She was employed in cutting the matches and filling boxes. The disease commenced with a toothache. She applied to a dentist to have the tooth extracted, and in the attempt the tooth was broken off with a portion of the alveolar process. Her face swelled considerably, but she returned immediately to her work.

From this time, the disease seems to have gradually become developed, the pain grew more severe; suppuration was established, and matter was freely discharged from the gum, by the side of the teeth. Dead bone finally made its appearance in the diseased jaw, and large sequestra were removed from time to time. In this manner, the whole maxillary bone on the right side, extending from the symphysis to the angle, has been removed, and there remains a very firm cicatrix, covering a hard cartilaginous or bony rim, occupying the original position of the bone. All the teeth on the right side of the lower jaw are gone; but all motions of this part are well preserved.

The disease, however, is not arrested; upon the left side it is still extending, and gradually involving the healthy periosteum, and inducing necrosis of the remaining portion of the jaw. Her general health, which improved after the removal of the diseased mass, is now very good, but is, evidently, yielding to the renewed drain upon her system, and the constant irritation which she suffers. Unless the entire diseased bone be removed, there seems little hope that the disease will be arrested, short of complete destruction of the lower jaw.

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ART. II.—*Analysis of Doubtful and Spurious Cases of Hydrophobia.* By J. LEWIS SMITH, M.D., Physician to the Northwestern Dispensary.

(*Concluded from page* 233.)

DOUBTFUL CASES.

THE doubtful cases which are embraced in the following table, need not occupy much of our time. When the nature of the affection is uncertain, an analysis will, obviously, yield little valuable information; and we shall consider those cases only which present interesting features.

TABLE IV.

Doubtful Cases.

No.	Sex.	Age.	Part Bitten.	Incubation.	Duration of Prod.	Duration of Disease.	Result.	Authority.
1	M.	Ad.	....	....	Few h.	30 h.	Fatal.	Dr. Whymper, *Med. and Phys. Jour.*, 1825.
2	"	40	Fing'r.	5 or 6 w.	No Prod.	4 d.	"	M. Leiville, *Med. Chir. Rev.*, July, 1827.
3	"	17	....	9 d.	....	2 h.	Recovered.	Dr. Arnell, *Med. and Phys. Jour.*, vol. iii.
4	F.	21	Wrist.	17 d.	1 d.		"	Cha's. E. Smith, M.D, " " vol., v.
5	M.	30	....	Often bitten.	....	....	Fatal.	Dr. Buet, *Jour., Coropt. Forn.*, xxiv.
6	"	Ad.	Leg.	25 d.	....	4 or 5 d.	Recovered.	M. Ozanam. *Gaz. Med.*, Jan'y., 1831.
7	"	"	"	1 m. & 8 d.	1 d.	½ to 1 d.	"	H. Covell, *Lond. Lanc.*, Aug., 1826.
8	"	12	Thigh.	4 m.		14 d.	Fatal.	C. Davis, " " Aug., 1827.
9	"	30	....	3 m.	....	Few d.	Recovered.	Dr. Williams, " " May, 1829.
10	"	19	Hand.	9 y.	....	....	"	Dr. McCarthy, " " Sept., 1835.
11	"	10	Leg.	10 y.	2 d.	4 to 6 d.	"	R. S. Ackerley, " " July, 1848.
12	"	17	....	7 y.	3 d.	2 d.	Fatal.	Dr. Burne, *Med. Gaz.* April, 1838.
13	"	17	....	2½ m.	2 h.	5 d.	"	———, *Gaz. des Hop.*, 1853.
14	"	14	Toe.	3 y. & 4 m.	7 d.	2 d.	"	James Mease, M.D., *Med. Rep.*, vol. v.
15	"	5	Cheek.				"	Dr. Rush, " " vol. i.
16	"	28	Leg.	24 d.	Few d.	4 d.	Recovered.	Dr. Barton, " " vol. ii.
17	"	40	Hand.	3 w.	....	....	Fatal.	Prof. J. Harrison, *West. Lanc.*, 1842.
18	"	Ad.	....	3 y, also 3 w.	1 to 2 d.	2 d.	"	W. Stockbridge, *Bost. Med. and Sur. Jour.*, 1842.
19	F.	41	....	....	...	3 d.	"	R. R. Hills, " " 1846
20	M.	Ad.	Leg.	3 w.	Few d.	2 d.	Recovered.	M. Fuller, " " 1850

In several of the above cases, the disease was developed immediately after some excitement or exposure. Thus, the first patient in the table was seized after a bath, which he had taken in a state of perspiration, and Dr. Buet's patient, after a debauch.

In case VIII. the fatal disease was pneumonia, and the symptoms referable to hydrophobia occurred during the first five or six days of his illness.

Cases X., XI., and XII., if genuine, were remarkable, on account of the long incubative periods. The first of these, who was bitten by a dog supposed to be rabid, suffered an attack of what his physician called hydrophobia, three months subsequently to the reception of the bite. From this time till his final sickness, that of which the records treat, he experienced similar attacks each spring, and occasionally in the autumn. In all, the symptoms were the same, consisting of spasms, "preceded by a sense of suffocation, tightness across the chest, and a heavy weight at the epigastrium." Currents of air, and drops of water falling upon the body, produced the phenomena characteristic of true rabies. But it is very improbable that a disease occurring annually, and sometimes semi-annually, for so long a period as ten years, was the canine madness. Probably it was a simple nervous disorder.

Patient No. XI. was excessively frightened, believing that he was the victim of hydrophobia. Quite likely the hydrophobic symptoms were, to a considerable extent, the result of fear.

In case XII. the real complaint was probably inflammation of the larynx and pharynx, as the patient was constantly struggling and moaning, and as the principal morbid appearance, discovered after death, was an intense injection of these organs.

Patient No. XIII. was a cretin. This young man died apparently of hydrophobia, but on account of the incompleteness of the records, there is doubt as to the nature of his malady. During his illness his mind was unusually clear, his expressions accurate, and he spoke of events which had happened years before, and to which, at the time, he gave little attention.

SPURIOUS CASES.

That certain other diseases may be, and have been, mistaken for hydrophobia, even by careful diagnosticians, the best authorities admit.

Sir Astley Cooper says (Lect. XLIII., *Lond. Lanc.*), "A man, some years ago, had symptoms resembling hydrophobia. He never had been bitten, and, on examination after death, the œsophagus, behind the heart, was found greatly inflamed: the symptoms were not of hydrophobia, but of inflammation of the œsophagus."

Andral (Lect. XVI., 1832), speaking of the dread of liquids, remarks, "it may consist solely of one symptom, the horror of swallowing fluids, a simple nervous perversion of no serious character. At other times it may be accidental, originating in a perturbed state of the functions of the nervous system: this constitutes a symptom of some other diseases, as is seen in hysteria, in many fevers, especially in those of an ataxic character, in some of which it may even be a predominant symptom. Inflammation of the œsophagus and may, again, pharynx be accompanied by true hydrophobia." By the expression, "true hydrophobia," Andral evidently refers merely to the symptom and not to the disease.

Prof. Trolliet, of Lyons, in his *Traité de la Rage*, adds, "There exists a great number of examples of cerebral irritations, continued or intermitting, with horror of liquids, and which have been confounded with hydrophobia properly speaking." More authorities might be cited to show the danger of mistaking other affections for hydrophobia, but it is better to present cases, that we may know precisely what these diseases are, and how close the resemblance.

Case 1.—Dr. Barbantini, of Lucques, relates the case of a person bitten by his own dog, which immediately disappeared. He was much alarmed, as he supposed the dog rabid. The disease made its appearance, and for four days the patient could neither swallow fluids nor solids. On the 9th day the dog returned in perfect health, when he was immediately let into the bed-chamber of his master, whom he caressed as

usual. From that moment the hydrophobic symptoms vanished (*Lond. Lanc.*, Apr. 1827).

Case 2.—This patient, a young man of twenty-four years, stated that he had never been bitten. On the 4th day of Oct., 1841, after a ride of fourteen miles, he was seized with pain across the chest, and difficulty of breathing. These symptoms soon subsided, and he ate a hearty dinner; but they returned at eight in the evening.

On the following day he was conscious, but could not speak. The sight of water increased his distress, and he experienced a spasm of the larynx, causing crowing inspiration.

On the third day his general condition was better, but the right arm had partially lost its power, and slight spasms were noticed of the muscles of the face and lower extremities. On the fourth day these symptoms had all disappeared; and his health was re-established, with the exception of transient attacks of dyspnœa.

The records state that this patient was predisposed to spinal complaints, and that when pressure was made over the lower cervical vertebræ, there was a marked exacerbation of symptoms. He was treated by venesection, and by an issue on each side of the vertebræ (J. Kimball, *Lond. Lanc.*, Feb. 1837).

The inability to speak, crowing inspiration, the increase of symptoms when the spine was pressed, and the result of treatment, show clearly that he suffered simply an affection of the spinal cord.

Case 3.—This patient, a lady of thirty-two years, was bitten by a dog supposed to be rabid; and, four days after, when her danger was intimated to her, was seized with extreme fear. On the eighth day she was excited and irritable, especially on seeing or touching water, and her speech resembled that of one intoxicated. Her symptoms increased till she had no control over herself, and manifested an inclination to bite. She finally became convulsed, foamed at the mouth, screamed and groaned like one insane. Recovery

took place after copious venesection, and large draughts of vinegar (M. Dubedat, *Gaz. Med.*, May 2, 1834). There can be little doubt that these symptoms were the result of extreme fear.

Case 4.—This patient, M. Buisson, was a physician, who had been attending a lady affected with hydrophobia, and had inadvertently cleaned his hands with a towel which she had used. Nine days subsequently, he was seized with pain in the throat and eyes; currents of air and bright objects distressed him, and he felt an inclination to bite. Drinking was difficult, and the sight of liquids not easily tolerated. These symptoms were paroxysmal. M. Buisson, believing that he had an attack of hydrophobia, took a warm bath, which gave immediate relief (M. Buisson, *Repts. Acad. Scien., Paris*). The occurrence of these symptoms so soon after the supposed inoculation, and their prompt disappearance by the bath, which in ordinary cases of hydrophobia is likely to increase the suffering, lead us to think that this patient suffered simply a nervous disorder. Besides there is no proof that one person can communicate hydrophobia to another.

Case 5.—A young man disappointed in love, and suffering the effects of a debauch. At first he had epistaxis, and delirium followed the arrest of the hæmorrhage. Eight days subsequently he was admitted into L'Hôtel Dieu, under M. Magendie. At this time his speech was embarrassed; he had convulsive attacks, and attempted to bite, if a polished surface or drinks were presented. In the beginning of his sickness he had lucid intervals, but towards the close of life, which occurred eight days after admission, delirium was constant. He was treated with transfusion, a pint and a-half of warm water being injected into the veins (M. Magendie, *Archiv. General*, Nov. 1832). The duration of the disease, the delirium, the embarrassed speech, and the fact that he had not, so far as was known, been bitten,—all show that this disease was not hydrophobia; but most likely mania a potu, or delirium from disappointment.

Case 6.—A lady of twenty-five years, and bitten by a dog

which soon after died of hydrophobia. Three or four days after the injury was received, learning the condition of the dog, she took fright, became feverish, and agitated almost to convulsions, and constantly ejected saliva. From the eighteenth to the thirtieth day these symptoms gradually diminished; but from the thirtieth to the fortieth, increased,—when quinine, calomel, and opium were given, and she recovered (Prof. Recamier). In none of the genuine cases embraced in our first table, was the incubative period as short as six days; besides, the history and symptoms of this patient show that her sickness was due to intense anxiety.

Case 7.—A young man of twenty years, and bitten by a mad dog, five or six years previously. His disposition was irritable, and he was subject to spasmodic attacks. He came under treatment by Baron Larrey for a sprain of the right foot, and, as he wished to be discharged from military service, took pains to make his complaint worse, so that sphacelation ensued, and the leg was amputated. Thirty days after the operation the secretions were suppressed—the jaws became locked, and repugnance was shown to transparent drinks. The muscular rigidity increased; and death took place on the third day from the commencement of these symptoms. (Baron Larrey, *Clinique Chirurg.*) The tonic character of the spasms in this case, shows that the disease was rather tetanus than hydrophobia; and I am at a loss how it could have been mistaken for the latter.

Case 8.—The Editors of *Schmidt's Jahr.*, and of the *Medico-Chirurg. Rev.*, into which the article was copied, believe that this patient died of hysteria in its severest form. She was six teen years old—never had the catamenia, and never had been bitten. She was taken with severe pain in the abdomen; with great constitutional disturbance, and difficult deglutition. The sight or presence of liquids caused no unpleasant effect. On the following day the upper extremities were rigid; and in the evening she experienced general convulsive agitation. The tongue was protruded—the larynx drawn forcibly upwards, so as to threaten suffocation—delirium, with lascivious

expressions and behavior, supervened; and death closed the scene at 9 P.M.—*Medico-Chirurg. Rev.*, April, 1838.

Case 9.—A man of thirty years, and bitten by a healthy horse three years previously. His sickness terminated fatally, after nine hour's of great restlessness and suffering. His repiration was laborious and accelerated, conjunctiva congested, and pupils contracted. The symptoms were not paroxysmal. (Dr. Flogel, *Oest. Med.*, copied into *Med. Times*, Feb., 1845.) This patient evidently suffered an inflammatory disease of the respiratory organs—probably, of the larynx.

Case 10.—A lady of twenty-two years; had never been bitten—but, two weeks before the attack, she was frightened by a dog which she suspected to be rabid.

After several days of melancholy, she dropped down suddenly, as if in a fit. Her eyes were wild and distorted—her limbs affected with spasms, and she made attempts to bite. The paroxysm lasted about ten minutes, when she became quiet, and was induced to go to bed. Immediately, another attack came on, in which she tore her clothes, sprang out of bed, and attacked the by-standers with such impetuosity that they fled from the room.

These paroxysms recurred frequently, and attempts to swallow brought on spasms. Her skin was dry, eyes dull, and cheeks flushed. She, for a time, made no reply to questions; but, at length, declared that she was well. The physician bled her to syncope, gave calomel and opium, and, by 4 P.M., the paroxysms had ceased. She slept quietly the following night, and, except the prostration, was entirely well the next day. She had no recollection of her sickness. (Dr. Laschke, *Bibl. der Prac. Heil.*, 1827.) This case, published as one of spontaneous hydrophobia, was obviously a distinct affection. Her falling, as in a fit, the flushed cheeks, the distortion of eyes, the inability or disinclination to speak, show that the disease was rather allied to hysteria than hydrophobia.

These cases teach us that extreme dread of hydrophobia, or the belief on the part of the patient that he is its victim, may produce intolerance of liquids and of bright objects,

difficult deglutition and respiration, and increase the flow of saliva (Cases I., III., IV., and V.) They teach us that spinal affections may produce spasm of the larynx, dyspnœa, and aversion to drinks (Case II.) We are taught, too, that delirium, and a state resembling hysteria, may be accompanied by convulsive agitation and attempts to bite (Cases V., VIII., and X.,) and that certain inflammatory affections, especially of the throat, may give rise to so much restlessness, dyspnœa, and dysphagia, as to be mistaken for true hydrophobia (Case IX.) Probably, with care, a differential diagnosis can be made in most instances.

PREVENTIVE TREATMENT.

A list of all the medicines which have been recommended in the professional journals, as well as public prints, as sure preventives of hydrophobia, would be tediously long. Some of these have been substances entirely inert; some, nostrums; and many of them, mixtures as complex and disgusting as those prepared by fabulous Circé, or the witches in *Macbeth*. It hardly seems possible, though true, that the Legislature of our own State once purchased the prescription of a so-called preventive, consisting of the pulverized jaw-bone of a dog, the false tongue of a newly-foaled colt, and verdigris from the copper coins of George I. or II. (Thacher); and this nauseating compound was extensively used.

It is difficult to determine the real value of any kind of preventive medication, from the fact, that a large proportion of those bitten by rabid animals do not take hydrophobia, whether treated or not. Still, it will be profitable to note what success has followed prophylactic measures.

In the *London Medical Gazette*, for July, 1830, it is stated that hydrophobia was epidemic, in and around Stockholm, in the year 1824, and that 106 persons, bitten by animals supposed to be rabid, came for treatment to the Royal Hospital, under the care of Dr. Ekstrom. The wounds were deeply scarified, washed with warm water, muriatic acid, or a solution of muriate of lime, then thoroughly cauterized, and,

finally, poulticed. The efficacy of the treatment was strongly illustrated in "the case of a young man, who was bitten, with ten others, by a rabid dog; they immediately applied for assistance, and all escaped." But he, regarding the wound as too trifling, paid no attention to it, and after three weeks fell a victim to hydrophobia.

Of the 106 treated in the hospital, only one took the disease. This was a young man, bitten with several others who immediately applied for assistance. He postponed calling till next day; and eighteen months afterwards died of hydrophobia.

In the *Medico-Chirurg. Rev.* for Jan., 1826, it is related that, at Zurich, since 1783, the following treatment has been pursued:—The wounds are scarified, and then kept discharging for six weeks, by cantharides. Meanwhile, mercurial frictions are employed till salivation ensues. Every second day, for three weeks, pulv. bellad., grs. v., are administered to an adult, or, as a substitute, if the patient apply soon after the infliction of the bite, calomel. He is kept in bed for a month, and denied animal food. Of 233 patients treated in this way, only four took the disease.

It is stated in the same journal, that the treatment recommended by Wendt consists in keeping the wound open for six weeks, by powdered cantharides, and at the same time ptyalizing. Of 106 treated in this way, only two fell victims.

Many other instances might be cited of preventive treatment, by medicines and by local measures, but I am not aware of any where the number treated was so large, or the result more satisfactory, than in the above cases. The treatment, both at Stockholm and Zurich, and by Wendt, was certainly remarkably successful, if all those patients were bitten by rabid animals. It is worthy of note, that not only was the local treatment in all these cases thorough, but the result was as good with this alone, as when medicines were administered.

It seems to me that the exhibition of powerful drugs, for the purpose of prevention, ought to be discountenanced.

for our statistics have shown that measures, which debilitate or disturb the economy, should be avoided, as agencies having this effect may be exciting causes of hydrophobia. The plea for the use of mercurials is, probably, that they may eliminate the poison from the system as in syphilis, but in the absence of any proof of this, there can be no justification of the prolonged use of such potent substances, according to the practice at Zurich, and by Wendt. As a purgative, or even as an alterative, administered till the gums are slightly affected, mercury may, perhaps, in some instances be of service; but, further than this, its employment can be regarded only in the light of mal-practice.

Though we deprecate the use of powerful medicines for prevention, gentle medication is often of great service. The records present several instances of a postponement of the disease, when symptoms indicated its near approach, by mild measures, which corrected some derangement or irregularity of the functions. Thus the administration of a laxative, in more than one case, gave temporary relief from the premonitory symptoms.

But the chief reliance of the physician, for the prevention of hydrophobia, is on local treatment; and such was the treatment, mainly, of the few cases in our collection, in which precautionary measures were resorted to. In eighteen of these, the bites were cauterized; in five, excised; in one, sucked; in five, washed, either with vinegar and water or a spirituous lotion; and in one, the finger which was bitten was amputated. It is evident that local treatment, to be effectual, should be promptly resorted to. In one of the above cases half an hour had elapsed; in two, one and a-half hours; and in eight, from one to five days; while in the remaining cases the time of treatment is not mentioned.

If the animal inflicting the bite appear to be rabid, it is better to err, if we err at all, in treating the wound too thoroughly, than in doing too little. Still, we ought not, evidently, to adopt measures so harsh, or so protract the treatment, as to cause constitutional disturbance, after the tenth day; for this might develop the disease.

The best local treatment seems to be excision or free scarification; and then, if the position of the bite will allow, the application of a cup to promote the discharge of blood. Suction by the mouth should not be attempted, as it is pretty well established that the poison may be absorbed through unbroken mucous surfaces; lastly, cauterization and poulticing. Now the question arises, whether the wound should be allowed to heal, or be kept open till the usual incubative period has passed. The records show that when hydrophobia begins, cicatrization has usually taken place; and if not, the discharge dries up or is scanty. We have seen, too, that in one instance in our collection of fatal cases (No. 78), there was a mitigation of the symptoms after hydrophobia commenced, and a protraction of the complaint for the usual period of nine days, apparently in consequence of the establishment of free suppuration from the wound. We have seen, moreover, that of the six favorable cases, in three excision or scarification was performed, and in one a spontaneous reopening took place, with apparent relief, after the characteristic spasm had appeared. These facts, if they do not justify keeping the wounds open during the usual incubative period, render it advisable to reopen them the moment they become the seat of any unusual appearance or sensation.

While upon the subject of preventive treatment, a word should be said in reference to the remarkable statement of Dr. Marochetti, a distinguished Russian physician, published a quarter of a century since. This observer declared that, from the third to the ninth day after inoculation, pustules appeared under the tongue, containing the hydrophobic virus, and if these were laid open and the mouth rinsed the disease would not appear. Most subsequent observers, who have looked for these pustules, and have denied the truth of Marochetti's assertion from their inability to find them, have made the mistake of examining during hydrophobia instead of within the first nine days of the incubative period. Even Dr. Thomas Watson, generally so accurate, has fallen into the

same error in his work on Practice; for he states that English physicians called to patients with hydrophobia have not been able to find the eruption.

Although Marochetti has been misunderstood, I am convinced, from an examination of the cases on which he based his opinion, that he was deceived. These patients, at least those whose records I have perused, were ill with headache, nausea, or other ailments, at the time the supposed pustules were found; whereas those really inoculated pass the incubative period in good health. Dread or expectation of hydrophobia will sometimes increase the secretion in the mouth and fauces as we have already seen; and it is probable that, in these cases, mucous follicles enlarged by their activity were mistaken for pustules.

Patient No. VI. of the spurious cases treated by Prof. Recamier, was excessively frightened when she found that she had been bitten by a rabid dog. The mouth soon began to fill with the secretion; and on the seventh, eighth, and ninth days there was an appearance of pustules under the tongue. So in case of M. Buisson already narrated, who evidently suffered a spurious affection, the same sublingual appearance was noticed.

There can be little doubt, then, that the theory of Marochetti, so beautiful and promising so much, was founded on an erroneous observation, and is to be classed with those numerous delusions which, in all ages, have gained admittance and temporary favor in the science of medicine.

That the various nostrums, which have been recommended from time to time as preventives, are not reliable, is apparent from the fact, that no one has had a permanent reputation. They have done harm, by giving a delusive sense of security, and causing rational treatment to be neglected.

Treatment.—An obscure, rapid, and commonly fatal disease is apt to receive heroic and complicated treatment. The history of Asiatic cholera affords a melancholy illustration of this, and not less does that of hydrophobia. A brief review of the medicines given and measures employed in the

treatment of the cases which we have analyzed will teach us some useful and interesting facts.

Blood was abstracted from thirty-three of the patients in our table of fatal cases, the amount varying from ℥x to ℥cxxx taken at intervals. The effect of venesection was sometimes to moderate the spasms, in consequence, probably, of the exhaustion. In some instances it seemed to shorten life, death speedily following. In the favorable cases the lancet was not used.

One of the patients, treated in Guy's Hospital, had his arm, which bore the cicatrix, amputated thirty hours after hydrophobia began; but when reaction was established, the paroxysms were more severe than at first.

Transfusion with warm water was practiced in six cases, the quantity injected varying from ℥iv. to ℥xxiv. This treatment either caused a severe hectic fever, or prostration with quick and feeble pulse. In two instances death speedily followed.

A mercurial, for the most part calomel, was administered in twenty-six of the fatal cases, without any obvious effect upon the disease—salivation sometimes resulting, added to the suffering of the patient. Mercurial inunction was occasionally prescribed, but rubbing the surface, whether with ointments or liniments, generally produced spasms—so that it was necessary to desist.

In forty-two cases, an opiate was administered. When given in large doses, it occasionally produced sleep; but the spasms afterwards were none the less severe.

Anæsthetics, generally chloroform, were inhaled, in twelve cases. The vapor arising from them increased, at first, the spasms; but when the system was under their influence, the paroxysms ceased—to return, however, when the anæsthetic effect had subsided. In the advanced stage of the disease it was necessary to discontinue the treatment, on account of the secretion; which, collecting in the throat, threatened suffocation.

Besides the remedies mentioned above, belladonna, hyos-

cyamus, conium, hydrocyanic acid, acetate of lead, strychnine, tobacco, turpentine, carbonate of iron, guaco, Indian hemp, aconite, scutellaria,—in fine, a large proportion of the articles in the *materia medica* were employed, but without appreciable benefit in any instance.

Stimulants were administered in only ten of the one hundred and thirty-one fatal cases; and in these not in quantities sufficiently large to enable us to judge of their effect.

There was nothing unusual in the internal treatment of the six favorable cases. It is worthy of note, however, that no remedies were administered to them more debilitating than purgatives, and one patient took stimulants.

Amid this confusion in the treatment of hydrophobia, what shall a physician do when called on to manage a case? Shall he bleed, shall he mercurialize, as most have done, or shall he stimulate, or shall he, as Marshall Hall advises, keep the patient quiet, and do nothing? A consideration of the symptoms, effect of treatment, and especially of the mode of death, and the post-mortem appearances, will throw light, I think, on the therapeutic requirements. The patient is extremely sensitive; he lacks refreshing sleep; his spasms are terrific, under which the strength rapidly yields, and his death is finally by asthenia. On opening the body, we find no uniform lesion of the organs; but the blood is unusually dark and non-coagulable, its vitality being destroyed by the poison. Ordinarily, in cases of toxæmia, it is not the approved practice to prescribe debilitating measures; and why in hydrophobia? In the one hundred and thirty-one fatal cases, which we have examined, the remedial agents, with a few exceptions, exhausted, instead of sustaining, the vital powers; and how rapidly did death ensue? I know no fact, no argument, in favor of such treatment—but, on the other hand, were brandy and beef tea freely administered, a larger number might, perhaps, be saved. The difficulty of swallowing does not preclude treatment—for stimulating, and nutritious enemata can easily be administered.

The employment of opiates, anæsthetics, and purgatives, appears to be judicious, as adjuvants. Ether is, probably, preferable to chloroform, as it is thought to be less depressing and less dangerous. Some of the patients who inhaled the anæsthetic were kept under its influence for many hours; and, in this state, if not totally insensible, were able to swallow. The inhalation should, obviously, be discontinued as soon as the spasms are checked. As purgatives sometimes relieved the premonitory symptoms, there is reason to think they may be of service during hydrophobia.

Little need be said of local treatment in hydrophobia, after what we have stated upon this subject under the head of "Prevention." If there are local signs or symptoms, as swelling or redness of the cicatrix, or an unusual sensation in or near it, good may be anticipated from scarification or excision. This treatment seemed to be of more service than anything else in the favorable cases in which it was practiced. But when the disease has no local manifestation, and becomes entirely constitutional, little good can be anticipated from such measures. Thus, we have seen that even amputation of the affected limb, in Guy's Hospital, entirely failed to arrest or modify the complaint.

In conclusion, the following deductions may be added to those already published:—

23.—The blood, in hydrophobia, is unusually dark, and its coagulability diminished. It is apt to escape from the vessels, forming ecchymotic patches, and to settle in depending portions of the body. There is no uniform lesion of the organs —but they present a vascular appearance. Occasionally emphysema is found in the anterior cervical region, and in the anterior mediastinum.

24.—True hydrophobia is probably never spontaneous in man.

25.—In rare instances hydrophobia has a favorable termination. The proportion of favorable to unfavorable cases, under the usual treatment, is about as 1 to 22.

26.—It is probable that an enraged but healthy animal

cannot communicate hydrophobia. We have seen that animals when apparently well, may impart the disease (Deduction VIII.), but that they usually become rabid afterwards. When, as very rarely happens, they remain in good health, it is probable that the poison in them is not sufficiently intense to develop paroxysms, or that it is rendered innocuous to them by the hygienic conditions in which they are placed.

27.—There is no well-authenticated and unexceptionable instance on record, of the communication of hydrophobia by man to man.

28.—Among the affections likely to be mistaken for hydrophobia, are a nervous condition induced by dread of the disease, spinal affections, hysteria, delirium, and certain inflammatory affections, especially of the throat. Dread of hydrophobia may produce intolerance of liquids and of bright objects, difficult deglutition and respiration, and increase the flow of saliva; spinal affections may cause spasm of the larynx, dyspnœa, and aversion to drinks: delirium and hysteria may be accompanied by convulsive agitation and attempts to bite, and in inflammatory affections of the throat, may give rise to such restlessness, dyspnœa, and dysphagia, as to be mistaken for true hydrophobia.

29.—Powerful medicines should not be administered for the prevention of hydrophobia, as they may be exciting causes of the disease; but gentle medication which corrects any obvious derangement of the functions, is of the first importance. The best local treatment appears to be excision or free scarification, immediately after the injury is received; then, if practicable, the application of a cup, to promote the discharge; and lastly, cauterization and poulticing. The bitten part should be re-opened, whenever the cicatrix presents an unusual appearance, or becomes the seat of an unusual sensation.

30.—The treatment of hydrophobia, as commonly pursued, exhausts, instead of sustaining, the vital powers. Venesection was practiced in thirty-three of the one hundred and thirty-one fatal cases, while stimulants were administered in only ten, and in these in a hesitating and inefficient manner.

And yet the symptoms, the effects of treatment, the ordinary mode of death, and the post-mortem appearances indicate the need of highly stimulating measures.

31.—As adjuvants, opiates, anæsthetics, and in some cases, probably, purgatives are beneficial, if judiciously administered.

32.—It is advisable, in the treatment of hydrophobia to reopen the wound, if the conditions mentioned in deduction twenty-nine are present. On the other hand if there be no local manifestation of the disease, no good can be expected from local measures.

ART. III.—*Dislocation of the upper extremity of the Radius.* By J. P. BATCHELDER, M.D. Read before the New York Medical Association.

THIS bone belongs to the hand, and was by the older anatomists called the handle of the hand. It is the principal agent in regulating the pronation and supination of that organ. Its head, confined in its place by the orbicular or annular ligament, and in juxta position with the external condyle of the humerus, is not easily dislodged, except by direct violence, or by a fall on the hand, and then only under circumstances which seldom occur; consequently its displacement rarely happens. It may take place either anteriorly or posteriorly. The circumstances to which we have just alluded relate to the former,—they are a violent pronation of the hand applied to the ground or to some fixed point—a forcible extension of the forearm—a strong propulsion of the shoulder forward, with an inclination or canting of the body backward. This, with the action of the pronator radii teres, and the biceps flexor longus, causes the dislocation inward or forward. Direct violence or some of these circumstances reversed, occasion the dislocation of the head of the bone backward. This form of dislocation sometimes takes place in consequence of the gradual elongation of the ligaments, especially in children—in this way :—When a child much led or often

lifted by the hand or wrist, and carried along with the arm extended, or pitches forward, the arm is rotated in one direction, while the hand is held fast or turned in an opposite direction by the person having hold of it. This practice stretches, weakens, and elongates the ligaments of the joint, and impairs its motion; which leads to an examination—when the bone is found partially or completely luxated. It is also occasioned in early life by sudden violence; somewhat, however, in a similar manner:—The child is taken by the hand and lifted with a jerk from the ground and carried along. It cries violently—is supposed to be slightly hurt or angry; but sooner or later the elbow joint is discovered to be tender, inflamed, and painful, with its motion much impaired. The surgeon called—not discovering the precise nature of the hurt—pronounces it a sprain; prescribes a lotion, rest, etc., and leaves the child to get well as best it may. When the inflammation and swelling have subsided, the real nature of the injury stands confessed; but the surgeon does not, however, succeed in remedying the mischief: yet flexion, extension, and rotation are much less impaired, than might have been expected.

In the adult the dislocation forward is, I believe, always the effect of violence, and is considerably more disastrous in its consequences, but is very rare; so much so, that Dessault doubted its occurrence even in the cases related by Duverney, and others; and if my memory be not much at fault, that distinguished surgeon was induced to deny this luxation altogether, till its reality should, by new proofs, be more certainly established.

Mr. Samuel Cooper ignores this form of dislocation, while Boyer declares that "the upper extremity of this bone can only be luxated backwards."

Mr. Liston says, "sometimes the radius is displaced forwards;" but he does not describe this luxation or give any directions for its reduction, but tells us that "in luxations of the radius backwards, flexion, and pronation, combined with extension if necessary, will generally effect a replacement;" but I have not found this to hold good in practice.

Sir Astley Cooper has seen six cases only of the dislocation of the radius forward. In two of which the reduction was not effected. The first was a female, a patient of Mr. Cline, in St. Thomas' Hospital. "The most varied attempts which his strong judgment could direct, were made to reduce the bone, but it could not be replaced; and the woman was discharged from the hospital, with the dislocation unreduced." "The second case was a lad, to whom I" (says Sir Astley), "was called by Mr. Balmanno, of Bishopsgate-street; and although I made attempts, by continuing and varying the extension in every direction, for an hour and a quarter, I could not succeed in effecting the reduction. The third case was that of a hair-dresser, who, being intoxicated in the evening, came to my house the following morning with his radius dislocated; during the time of examination the patient became faint, and at last fell upon the floor in a state of syncope. This I thought afforded me a most favorable opportunity for replacing the bone, while he was still upon the floor. I rested his olecranon upon my foot, so as to prevent the ulna from receding, and then extended the forearm, and, under these favorable circumstances, the radius returned to its natural situation." But for the "state of syncope" into which the patient had fallen, Sir A., who extended the forearm, would probably have failed to reduce the bone.

In the next case, making "extension from the hand without including the ulna, he succeeded in a few minutes."

In the fifth case, no reduction was had—the preparation is "in the collection at St. Thomas'." The sixth was one exhibited by "a gentleman of high character at the bar." "It had happened many years before, and numerous and most violent attempts had been made to reduce it, without success." Sir Astley adds:—"What is here stated upon this subject, I have usually given in my lectures, carefully explaining the difficulty in restoring this bone to its situation; and after an evening's lecture, Mr. Williams, one of my most intelligent pupils, said to me, "I have known the radius reduced in these accidents, by extending from the hand only." "I was con-

vinced," says Sir Astley, "that the mode of extension Mr. Williams mentioned was the best; as from the connection of the hand with the radius, that part alone is acted upon, and by excluding the ulna from the force applied, the radius sustains the whole extension." "The hand should be rendered supine, as this position draws the head of the radius from the upper part of the coronoid process of the ulna, upon which it is otherwise directed, and then to draw the fore-arm, by pulling the hand and fixing the os humeri." Since the publication of Sir Astley Cooper's work on dislocations and fractures, the mode of reduction suggested by him has been practiced by our most intelligent and experienced surgeons, but with very indifferent success, or frequent failure. It has fallen to my lot to see a number of these cases. The first came under my observation in 1811 or '12. Its nature was made apparent by its characteristic sign, the striking of the head of the radius against the humerus on flexion, which puts a sudden stop to that movement, with the jar or concussion, which announces to the surgeon that one bone has been forcibly impelled against another. The fore-arm and hand were in a state of supination, caused mainly by the action of the supinator brevis, which was put on the stretch by the displacement of the head of the radius forward. Flexion, extension, pronation, and supination could be only very imperfectly executed.

On account of the anatomical connection of the hand with the radius, and the ulna being in place, the extending power was applied to the hand only, but nothing seemed to be gained whether the arm was extended or flexed, while efforts at reduction were being made. In fact, the head and neck of the radius seemed to be drawn down to the ulna, at the inside the lesser sigmoid notch, about in proportion to the degree of force employed in making the extension. I need hardly say, that no reduction was effected. Although flexion and extension, pronation and supination, were considerably curtailed; yet the man ultimately acquired a fair amount of motion, so that the usefulness of the limb was very little abridged, a result I have uniformly observed, in other

alike unfortunate cases. Not long after, I described this case to Dr. Josiah Goodhue, an experienced and distinguished surgeon, then of Chester, Vermont, but subsequently of Hadley, Mass., for the purpose of ascertaining his views in regard to the treatment of such an accident; and had the pleasure to be informed by him, that he had found out or discovered a method by which the reduction could be readily accomplished—which was this:—Suppose the left elbow to be the seat of injury—the surgeon should take the hand of that arm in his right hand (palm to back) and grasp the elbow with the other, with the thumb placed on the inside, and a little above the head of the radius. The fore-arm should now be forcibly extended or straightened, and the hand no less forcibly supinated, and the head of the radius pushed downward and outward by the thumb placed on it for that purpose. As soon as it has descended to a level with the articulating surface of the external condyle, which it readily does, the hand should be carried rapidly and forcibly upward, crossing the arm in a direction external to the acromion process; the head of the bone, being at the same time pushed vigorously outward, slips into its place.

This method, Dr. Goodhue informed me, had always succeeded with him, and it has always done so in my hands, and I believe in the hands of every other surgeon who has tried it. With me it has succeeded in several cases of some weeks standing. After reduction, the accident is apt to recur, unless the arm is kept in a flexed position. To secure the patient against all chance of recurrence, I have applied the rectangular splint—taking care to have passive motion impressed on the limb after the first fortnight; not, however, allowing any of the motions to be performed, but to a limited extent, until near the end of the fourth week.

When the head of the radius is dislocated backward, the hand is turned prone, and the member can neither be fully flexed nor extended. In order to effect a reduction, the method just described must be reversed. The surgeon should take the patient's hand in his, palm to palm—pronate as much as

possible, and then bring the forearm to an acute angle with the arm, the patient's hand being carried inward across the upper arm in a direction towards the middle of the clavicle—the thumb of the surgeon's other hand should then be placed just above, and on the outer or back side of the head of the radius, which is, in this way, made to advance downwards and forwards to a level with the articulating surface of the outer condyle of the humerus—the limb should now be strongly and rapidly straightened, and the hand supinated, when the head of the bone, upon which pressure has been firmly made, will return to its natural situation. I once found it expedient, in the case of a strong muscular man, to place both my thumbs on the head of the radius, and have the other movements impressed upon the hand and forearm by an assistant who was instructed, by manipulating the well arm, what to do.

In this variety, the luxation is very apt to recur, unless proper care and attention be observed to prevent it, which is effectually done by the angular splint, bandages, etc.

These dislocations, I am convinced, occur more frequently in the "rural districts" than in cities, which accounts for the fact that Sir Astley Cooper, and the other distinguished surgeons alluded to, had seen so few cases. In describing the symptoms presented by this accident, Sir Astley tells us that the hand is pronated, which is exactly the reverse of what has occurred under my own observation. It is, to be sure, natural enough to suppose that the hand would correspondingly follow the movement of the radius and be pronated, when that bone was luxated forward and inward, unless we recollect that by this change in the direction of the bone the supinators, particularly the supinator brevis, would be put on the stretch, which would cause supination of the hand. So in the dislocation of the head of the radius backward, the pronator radii teres and biceps flexor longus, and perhaps the pronator quadratus, would likewise be put on the stretch, and bring the hand to a state of pronation. When this accident (dislocation forward) has happened, neither pro-

nation nor supination can be fully performed by the patient, or effected by another; but when it has been caused by great violence, or when much force has been applied in efforts at reduction, and the parts about the seat of the injury have been consequently much torn and broken up; the hand may become considerably more pronated than it would otherwise have been, or be the more easily made to assume that position: but for the circumstances just mentioned, supination is the necessary result of this form of dislocation, and it is to be presumed that they operated with full force, in the case related by Sir Astley Cooper, and also in that recently given by Mr. Tagert, senior surgeon to Mercer's Hospital. If I am not much mistaken this is the position represented by the plate in Sir A.'s work on Dislocations and Fractures.

Dislocation of the Thumb, at the Joint connecting the first Phalanx with the Metacarpal Bones.—This luxation has long been the opprobrium of surgery. Violent efforts at extension have been made, and even the thumb actually torn off, but reduction has been seldom accomplished. The uniform failure of the ordinary mode and means of reduction prevailed on Blandin to invent a pair of forceps, (known in all our shops as Blandin's forceps,) for making the extension more effectual; but, so far as I have had an opportunity of knowing, these and all the other methods have generally failed, unless the lateral ligaments of the joint were divided by a subcutaneous incision, as suggested by Sir Charles Bell. Most surgeons among whom is Sir Charles Bell, and Mr. Hey, impute the difficulty to these ligaments, between which the head of the bone is forced, and by which, being put thus on the stretch, it is steadfastly retained; they seem, however, to have forgotten or overlooked the fact that there are two sesamoid bones, lodged one on each side of this joint in the tendons of the flexor brevis pollicis, between which the inferior extremity of the metacarpal bone is forced forward and "projects very much inward, towards the palm of the hand, and the extremity of the phalanx projects backward." In this displacement, parts of the flexor brevis are put on the stretch, which,

acting like extensors, draw the proximal extremity of the phalanx upward along the posterior surface of the metacarpal bone and fix it there: hence, every attempt at extension, only makes the matter worse. How, then, is this difficulty to be overcome, and the reduction accomplished? Not by extension, of course; but, in the following manner. The surgeon should take the metacarpal portion of the dislocated thumb, between the thumb and finger of one hand, and flex or force it as far as may be into the palm of the hand, for the purpose of relaxing the muscles connected with the proximal end of the phalanx, particularly the flexor brevis pollicis. He should then apply the end of the thumb of this hand against the displaced extremity of the dislocated phalanx, for the purpose of forcing it downwards, and at the same time grasp the displaced thumb with his other hand, and move it forcibly backwards and forwards, as in strongly forced flexion and extension, the pressure against the upper extremity of the first phalanx being kept up. In this way the dislocated bone may be made to descend, so as to be almost or quite on a line with the articulating surface of the metacarpal bone, when the thumb may be forcibly flexed, and—if it be not reduced—as forcibly extended, and brought backward to a right angle with the metacarpal bone, when, if the downward pressure, with the thumb placed as before directed for that purpose, has been continued, (which thumb, by maintaining its position, acts as a fulcrum, as well as by its pressure,) the bone will slip into its place, and the reduction be effected in less time than has been spent in describing the process. I derived the first hint of this procedure from hearing an empyric, somewhat noted as a bone-setter, describe the process by which he had succeeded, in a similar case. This occurred about the time I commenced the study of medicine, and from the manner in which it was told, the relation has never escaped my memory; but from his being considered somewhat of a quack, and, moreover, a professional braggart, it was not subsequently analyzed or acted on, until after I had failed in a case of the kind. That failure induced me

to investigate its causes in the dissecting-room, which brought up a vivid recollection of the statements of the bone-setter; and the consequent analysis of the anatomical relations of the parts involved, resulted in the adoption of the method just described, which I believe will always be attended with prompt success, especially in recent cases; and also in those of considerable standing, say a week or two.

This method of reduction is the one which I have been in the habit of teaching and practicing for many years, and I was not aware that it had ever been practiced by any other person, with the exception of those who may have learned it, directly or indirectly, from me, until within a few days past, (June 6th,) my eye accidentally fell in with an article (No129) in Ranking's Abstract, which was published by John Doe Esquire, M.D., of Cabot, Vermont, in the *American Quarterly Journal of Medicine*, April, 1853. His directions are very similar to mine, and were undoubtedly original with him, but not exactly so with me, having originated in the statement of an empyric, but modified, I trust, by the suggestions of science.

ART. IV.—*The Treatment of Fractured Limbs by the "Plaster of Paris Bandage" of* N. PIROGOFF, *of St. Petersburgh, Russia; with a Case.* By GUSTAV C. E. WEBER, M.D., of New York.

IN the "*Deutsche Klinik*," of the year 1854, I find an extract from a monograph which appeared written in Russia's native tongue, by N. Pirogoff, on a new method of bandaging fractured limbs with linen soaked in a solution of plaster of Paris. As I have not the original work, I give the extract in the way it appeared in No. 18 of said journal:

"That method of bandaging in the treatment of simple fractures, merits above all to be selected, which keeps, in the best and most accurate manner possible, the fractured ends in unmovable contact, and replaces by this, manual extension and coaptation.

"In the treatment of complicated fractures, that bandage merits the most consideration, which leaves the lacerated portion of the soft parts uncovered, and still fulfills its purpose.

"Above all bandages and apparatuses, the '*starch bandage*' of Seutin, fulfills in the best way, both indications; but still, this bandage has also its disadvantages. It dries very slowly; the extension has to be kept up a good while; its walls contract; the application, in general, is tedious and long; the application of openings in complicated fractures is difficult, and on the battle-field, where a quick bandage is wanted, it can, under no circumstances, be used.

"A short time ago, the plaster of Paris bandage, which for many reasons is preferable to the method of Seutin, was proposed and used, modified, in Belgium; but the mode of application by Mathiesen and Van der Loo is too tedious and troublesome; the bandage is not durable; and the preparation and keeping of the different pieces, offer even more inconveniences than the starch bandage.

"Prof. Pirogoff, of St. Petersburg, has imitated the art of the sculptors, who use for the formation of the folds of robes linen soaked in a plaster of Paris solution, and applies now, with great success and saving of time and expense, this mode in the treatment of complicated and simple fractures.

"The material consists of an inferior quality of plaster of Paris and old sack linen. The way of bandaging is simple, and is achieved three or four times quicker than the one with starch.

"The application of bandages for a fracture of the femur in the lower third, takes about five minutes.

"The plaster of Paris bandage gets hard and dry nearly immediately, and, therefore, no further manual coaptation and extension is necessary. Only with oblique fractures of the thigh and of the neck of the femur a prolongation of extension will be needed, for perhaps the short time of one or two hours.

"The greatest advantage of this method is the simple way

of application of large openings or windows, where great mutilation of the soft parts exist.

"The following articles for bandages are wanted:—long, old, hospital stockings, opened at the seam—old drawers, jackets, or waistcoats of linen. For fractures of the thigh,—belts which can go round the pelvis one and a-half times; old linen, cotton, and cushions filled with lint or flax (to fill up depressions round the ankles, etc., etc.); splints of different lengths, out of two to three layers of the coarsest linen, and strips of the same material.

"The splints must be two to eight fingers broad, and a little longer than the injured limb;—the strips ought to be two to ten inches broad, and reach two to three times round the limb.

"At last a quantity of plaster of Paris, perfectly dry and finely pulverized, and cold water, with brushes, are to be kept in readiness.

"It takes some practice to make the solution not too thin nor too thick, so that it dries neither too slowly nor too fast. Equal parts of water and plaster will be the best proportion. When the application of the bandage takes up more than ten minutes, a few drops of carpenter's glue will retard the process of hardening, for a quarter of an hour and longer. On application of the plaster of Paris bandage, the injured limb is first covered with dry linen; the depressions and projections are filled with cotton; extension and coaptation are made *lege artis;* and then the splints, soaked in the solution, are applied lengthways close to the limb, and fastened crossways by the strips. Instead of the strips, a roller can be used, which has to be covered with the solution by means of a brush, gradually, throughout the time that it is applied.

"At the exterior margin of the limb the splints are applied; so that a small space of an eighth in width is left open. A piece of tape soaked in oil marks this space. The strips are also oiled crossways, in their middle, so that the solution is not taken up there—the oiled parts must fit the line of the tape; in this way, a small space is left open, and un-

covered by the plaster of Paris, so that the bandage can either be made tighter, by application of a new roller, or easily cut open, to be removed. The plaster of Paris bandage is well adapted to the quick construction of capsules, for the transportation of the injured."

I have now had two cases of fracture; one of the femur, and one of the tibia, where I applied Pirogoff's bandage, and in both cases, I am satisfied with the result; so that I prefer this mode of bandaging to any other I have myself used, or seen used, in the hospitals of Vienna, Paris, or Berlin.

My first case happened with a boy from nine to ten years of age; and was an oblique fracture of the upper third of the femur, produced by a fall on the thigh, from a hight of eight feet.

I saw the case, together with Doctors Nelson Steele and E. Elliot, both of which gentlemen kindly assisted me, and allowed me to try the new bandage. It was applied the fifth day after the accident,—the inflammation being, meanwhile, subdued by application of cold, and by the perfect coaptation of the fragments, by extension and counter-extension. To achieve the latter, I applied the simple method which I have seen Jobert de Lamballe,* at the Hôtel Dieu, frequently use for the treatment of fractures.

After having examined and measured the injured limb attentively, so that we were sure that there was perfect coaptation, I commenced by applying a roller of thin, smooth flannel, filled the depressions with raw cotton, and, with the same, leveled all projections; after this was done, I applied a small splint of pasteboard, half a foot in length, over the fractured point, and fastened it with a dry linen roller.

Then the linen splints, soaked in a solution of plaster of Paris, were adjusted, and the whole fastened—first, by a layer of strips, and, next, with a linen roller, both covered with the solution. The bandage was dry and hard, like a rock, in

* Jobert treats all fractures, so far as I know, with extension, by means of weights, connected with a roller to the foot; and by counter-extension, through the use of a strap, carried between the limbs, over the groin of the injured one upward to a fixed point on the bedstead, without any other bandage whatever; the limb laying open, but smooth, on a good hair cushion.

about a quarter of an hour; no further caution to our restless little patient was necessary, and he could easily roll about in his bed.

Five weeks after the application of the bandage, I removed it, and found to my gratification, perfect union, and no shortening whatever of the limb.

With my second case I succeeded in the same manner; and as my proceedings were the same as in the first case, with the exception, that here I applied the bandage for the fracture of the tibia, it will not be necessary to repeat them. I only add, that I prefer to cover the limb first with a roller of flannel, and not with linen—the former adjusts itself more smoothly to the parts, and can be applied much tighter, without producing depressions in the skin.

I also think it beneficial to apply one small splint just over the fracture, in transverse as well as in oblique ones, because this keeps the fragments closely together, until the bandage is perfectly dry, which does away with any further extension, etc. Without this splint, the least little movement of the patient would disarrange the apposition of the fragments if no manual coaptation is kept up.

These are the only small modifications I made use of in the application of "Pirogoff's Bandage;" otherwise, I consider it perfect in all respects,—and every one who has tried it will readily admit it to be so.

In complicated fractures, I have not had a chance to use this bandage, but I found, in trying it on the phantom, the application of openings or windows very easy.

WEST 22ND STREET.

ART. V.—*Cases of Poisoning by Arsenic.* By JAMES WALSH, M.D. Franklin Avenue, Brooklyn.

Case 1.—Sunday, June 10, 1855, A. B., Classon Avenue, Brooklyn, a stout man, aged 23, purchased two hundred and forty grains of arsenic, "for poisoning rats," as suicides generally say, and swallowed it. He then rinsed the cup and swal-

lowed down the dregs of the poison. Arsenic was written on the envelop of the drug, and poison on a second envelop; he was duly cautioned about the effect of it, in the drug store; but he took it very coolly and went to work to commit suicide quite deliberately. He had taken breakfast at 6, A.M., and took the arsenic at noon. A girl saw him take the poison, and alarmed his friends, who made him swallow some melted butter and common salt, and instantly sent messengers to the drug store, and for medical aid. Within an hour after he had taken the poison, I saw the case with Dr. Betts and Mr. Evans. A drachm of sulph. zinc produced very free vomiting. A portion of this matter, on subsequent examination, was found to contain arsenic. The carbonate of iron (in molasses) was given in ounce doses, and allowed three minutes to act on the arsenic, then evacuated, by half a drachm of zinc dissolved in a pint of warm water. This was repeated six times before the arrival of the hydrated sesquioxide, which was kindly furnished from the laboratory of the Marine Hospital. A burning pain in the stomach, of which the patient complained, and the restless nervousness, and pinched face that accompanied the pain, disappeared on his swallowing the first dose of the hydrated oxide. The amount of it given in the dose was eight fluid ounces. This was followed by the zinc as above mentioned and repeated in doses of four ounces every five minutes, until there was good grounds for believing the arsenic nearly all neutralized and removed. To prevent the evil effects of any portion of the poison that should have chanced to pass the pylorus, I gave four ounces of the antidote, followed by one and a-half ounces castor oil. The oil not only acted freely on the bowels, but it carried the iron before it through the whole intestinal canal, thus neutralizing every particle of the arsenic, and soothing the irritated mucous membrane. The man was about his business next morning, and has had no bad symptoms since. The quantity of the hydrate used was about two pints, and the carbonate previously given in molasses, made the whole about forty-eight ounces. He used two ounces of zinc.

Case 2.—June 30, 1847, M. N., Grand-street, New York, aged 25, rather delicate and of a bilious habit, a tailor, took six hundred grains of arsenious acid, and recovered without one bad symptom, by the same treatment. The ordinary tea-spoonful of arsenious acid weighs one hundred and fifty grains, but in this case the young man heaped the spoon three times, and drank the whole of the arsenic, on water. I afterwards made him fill the same spoon in the same way, and, on weighing the amount, found in each spoonful two hundred grains, in all six hundred grains. He mistook the arsenic for cream of tartar, and had no idea of suicide. He had breakfasted that morning at 8 A.M., took the arsenic two hours after, dined at noon, and having learned the dangerous mistake he had made, he called on me at a quarter past twelve. The carbonate of iron and molasses being the readiest antidote by me, was used in ounce doses, followed by sulph. zinc, until I obtained the precipitated hydrosesquioxide. The treatment was precisely like the foregoing, and the quantity of iron, zinc, and oil, very nearly the same. The bowels were very freely moved; the stools black with the iron and molasses, but not a bad symptom remained; and he was to work the next day. The arsenic remaining in the paper was examined, and some of the vomited matter, and both gave satisfactory proof of arsenic to the tests.

Case 3.—A man was brought to the City Hospital, N. Y., about the same date as the above case, said to have taken a large quantity of arsenic. The zinc and carbonate of iron were used freely, and the case saved. The quantity of arsenic taken was not discovered.

Case 4.—A woman took half an ounce of arsenic, in Jersey City, to kill herself; crossed the ferry to New York; the police were informed of her attempt; took her up; brought her to Dr. Scoville, of the police force. The treatment was nearly the same as above described, and no inflammation or trouble followed. In these cases there was no stupor, or convulsions, which writers have maintained to be present in all cases where large quantities of arsenic are taken.

Case 5.—Oct. 6, 1847, H. R., Division-street, N.Y., aged 40. A strong, stout man; had been subject to occasional fits of insanity, and had often threatened to poison himself. I was called to see him an hour before his death, and probably nine hours after he had taken the poison. He had had convulsions, and resisted successfully all attempts to pass any matter whatever into his mouth. The post-mortem examination showed a good deal of inflammation in the stomach and rectum; around the pylorus was the most vascular portion, both of stomach and duodenum; the lungs were congested; the liver paler and less vascular than in ordinary cases; a pint of fluid was found in the stomach, which, on being tested, gave the usual arsenical appearances. The action of the arsenic in this case was very prompt. He left his home at 10 o'clock A.M., in his usual health, returned at 2 P.M., and died at 6 P.M.

Case 6.—M. B. aged 26; residing corner Church and Warren Streets, New York, purchased half an ounce of arsenic, "to kill rats," at a neighboring store. She swallowed it at 3 o'clock P.M., resisted all efforts that were made to relieve her, and died at 11 o'clock, P.M.

Case 7.—J. H., aged 37, a carpenter, residing in Fifteenth-street, near Sixth Avenue, New York, came home from his work at 8 o'clock, the 8th of Dec., 1848. He got a bowl of soup containing arsenic. He remarked the taste to be bad; vomiting and purging set in. A doctor was called at 5 A.M. next morning, and while writing a recipe for cholera medicine, the man died. Prof. Reed, of the City Hospital, found two drachms of arsenic in the stomach and its contents.

Case 8.—A. M., Grand-street, New York, aged 14; swallowed half an ounce of *Fowler's Solution*. I was called in half an hour after the accident had occurred. An ounce of the tincture of iron, and one ounce of liquor potassa, mixed, was given in doses of a table-spoonful, followed by sulph. zinc every five minutes, for six repetitions of the dose. The burning pain ceased. Another dose of the iron, followed

by an ounce of castor oil, operated freely, and left the patient quite well.

Case 9.—A. B., Broome-street, New York, aged 6; took two tea-spoonfuls of *Fowler's Solution*, and soon complained of pain in the stomach, and vomiting. Two ounces of tincture of iron, and half an ounce of carbonate of soda, mixed, was administered in tea-spoonful doses, every five minutes, followed by ten grain doses of sulph. zinc in warm water, until she had taken an ounce of the iron mixture. Two tea-spoonfuls of the iron mixture and half an ounce of castor oil finished the course. Next day my little patient was quite well.

Remarks.—The foregoing cases point out the benefit of the early evacuation of the stomach by the quickest means obtainable; the great power that the oxides of iron have in preventing the absorption of the arsenic, and in preventing inflammation of the mucous membrane of the stomach and intestines; the absence of danger in giving so much iron and zinc, and producing such violent vomiting as must necessarily ensue, show how easy it is to prepare an antidote, and useful the iron and castor oil purge is, as a finale to the treatment.

The ordinary red-brown preparation of iron, known as the carbonate, and sub-carbonate, in the drug stores, (being, in reality, a sesquioxide of iron, with a trace of carbonic acid,) is the readiest preparation for the practitioner, in cases of emergency; and may be depended on, if given in sufficient quantity. Dr. Brett found ten times the quantity of the iron antidote unequal to neutralizing one of the arsenious acid.

Dr. Maclagan found it necessary to use twelve parts of the hydrated oxide to one of arsenic, to form the insoluble arsenite; and sixty parts to one, when used in the dry state. Devergie states, that it requires thirty-two parts of the oxide of iron to one of arsenic, to render it insoluble. Taylor used twenty fluid ounces of a mixture of hydrated sesquioxide of iron on sixty grains of arsenious acid finely powdered, and found that

it did not form an insoluble arsenite—the arsenic was easily detached, undissolved, and unmixed, when the sediment was dried on a glass plate. All that is dissolved, however, he admits, is turned into an insoluble arsenite, by the iron. Christison thinks the antidote must contain ammonia, and, hence, the usual preparation is precipitated by it. The ammonia renders the arsenic soluble, and then the sesquioxide acts on it promptly. Muriatic acid renders arsenic very soluble; hence the benefit of the ordinary tincture of iron saturated with the common carbonate, and as soda and potass also render the arsenic soluble, they answer the same purpose. But to use them without the iron, would, therefore, be most destructive; and hence the objection that would be naturally felt against using the common salt emetic, without the antidote being present. The iron acts decidedly and promptly on the arsenic in solution, but the arsenic acts most decidedly and promptly in that way also, and with far greater rapidity and power than it does in its ordinary state of powder.

Fowler's solution acts with more energy than the arsenious acid in its dry form, requiring very prompt treatment. A tea-spoonful of Fowler's solution contains one-half to three-fourths of a grain of arsenic—the fluid drachm containing half a grain. A case is reported in the *Medical Gazette*, No. 39, where two and one-half grains of arsenic killed a stout, healthy woman, of nineteen years of age. Three grains will generally prove fatal to an adult, and half a grain will produce the burning pain, inflammation, vomiting, redness of conjunctiva, etc., usual in arsenical poisoning.

Taylor states, that three drachms of Fowler's solution will kill an adult. The time of death does not seem to bear any relation to the quantity taken. A child dies in two hours after being poisoned by a small dose; four or five grains caused the death of an adult in four hours; an ounce killed an adult in seventeen hours. A woman took two ounces, and in one hour after, a doctor cleared the stomach of its contents, and in one hour more she died. The mere emptying the stomach, therefore, is not enough. The nervous action may destroy the

patient after the poison is removed. The arsenic, if taken in small quantity, is usually eliminated from the system in twelve or thirteen days, (Orfila, Tox. I, 715); but Boujeau detected it in the urine of a patient who had taken three-fourths of a grain of arsenite of soda, *in minute doses during twenty-four days*, although the last dose had been taken a month before. Although high authority can be quoted for the use of diuretics, to aid in the elimination of the poison by the urinary passages, it must be of doubtful benefit, considering the power of the majority of them in rendering arsenic soluble and active.

The recklessness with which arsenic is used by cancer quacks is in keeping with the carelessness with which it is sold and kept "for killing rats." A tenant, leaving his premises, left a paper of arsenic in a cupboard; some of it fell into sugar belonging to the succeeding occupants, and the father, mother, and four children were poisoned by using the sugar. Medical aid was called; but two of the children died next morning.

The knowledge of our ability to detect cases of arsenical poisoning, many years after the death of the victim, should deter the wicked from resorting to it as a means of taking life. John Cook, of Ashburnham, was tried before Judge Shaw, of Boston, in December, 1848, for poisoning his wife, in February, 1834. The testimony was pretty clear against him. The body was in good preservation five years after her death, and the stomach pretty sound in fourteen years. Dr. Webster, of Cambridge, found upwards of four grains of arsenic, in examining her remains. The old theories of arsenic existing in healthy bone is long exploded; and Orfila has proved, by experiments on the deady body, that a soil impregnated with arsenic will not preserve the human remains interred in it three months, much less enter into its structure.

Tests.—The garlic odor, given out by burning arsenic on red-hot coals, is easy. Powdered charcoal and dry carbonate of potass (two parts potass to one charcoal), placed in a clean,

dry glass tube of very small diameter, with one-third the quantity of the suspected arsenic well mixed, stop the tube loosely at its open extremity, apply the closed end in the flame of a spirit lamp until it becomes incandescent, when the arsenic will form a metallic band around the tube. This crust will give all the characters of arsenic. Nitrate of silver precipitates all the hydrochlorates from the vomited matters; when the solution is thus cleared, touch it with a glass rod, dipped in liquid ammonia, and it will give on the rod the yellow arsenite of silver. Arsenic changes sulph. copper into Scheele's green.

ART. VI.—*Case of Vesico-Vaginal Fistula successfully treated, according to the method of Dr. Sims.* By T. C. FINNELL, M.D., Surgeon to St. Vincent's Hospital, New York.

MRS. G., aged 19, when about seven months and a-half pregnant with her first child, received a severe fall. In the course of a few hours, she was attacked with severe pain in the back, and other symptoms of labor. Opiates were administered, and rest enjoined, which had the effect of preventing premature delivery. From this time she felt no motions of the fœtus, and suffered very much from the distention of the abdomen, occasional pains, and feeling of weight in the hypogastric region—symptoms that denoted the presence of a dead child.

On the 29th of August, 1855, she was taken with true labor pains, which soon ruptured the membranes, giving exit to a large quantity of offensive liquor amnii.

The pains continued strong and expulsive, without any progress in the delivery. The medical attendant discovered the face presenting, but advised delay, in hopes that nature would accomplish all without assistance. At the end of four days, no progress having been made, it was deemed expedient to proceed to instrumental delivery. This was accomplished without much difficulty. The fœtus was partially decomposed, the integument peeling off readily. Acute vaginitis followed, which, at the end of six weeks, terminated by the separation of several sloughs.

In the early part of December, I saw the patient, for the first time, in consultation with Dr. Henry Sheppard. An examination showed the presence of a firm cicatrix at the inferior commissure of the vagina, which rendered it difficult to explore the parts. She was supposed to be laboring under incontinence of urine, from the paralysis of the neck of the bladder. On introducing a catheter, it passed into the vagina, through a large fistulous opening, passing from right to left obliquely, situated at the neck of the bladder, and readily admitting two fingers.

The patient was made aware of her true condition; at the same time, informed that the chances of improvement by an operation were very poor, indeed.

I advised delay for several weeks, in order to give the parts a chance of contracting to the fullest extent. A few weeks after, I was requested to operate, as the patient was anxious to have anything done that promised relief to her deplorable condition.

The patient was etherized, and an exploration of the parts carefully made—the leaden clamps measured, and calculations as to the different steps of the operation decided on.

Jan. 8, 1856, was the day fixed for the operation. I was kindly assisted by Dr. Benjamin Drake, Dr. Downs, Dr. H. Bedford, and Dr. Weltgee. Chloroform was administered—the cicatrized bands divided in at least a dozen places—considerable hæmorrhage took place, which, for a time, delayed further proceedings. The silver wire sutures were then introduced, the clamps applied, and the operation completed, after considerable trouble. The patient was under the full influence of the anæsthetic two hours and a-half.

She made a rapid recovery, without any unpleasant symptom. The clamps were allowed to remain 13 days, as they gave rise to no inconvenience, and she was unwilling to have them removed, for fear the fistula would open again. All the urine passed by the urethra from the time of the operation. She still is troubled, at times, with incontinence—but retention occurs for several hours at a time. This symptom

is gradually improving, and, in the course of a little while, will probably disappear.

ART. VII.—*Remarks on the disease called Fēfe (Elephantiasis Arabum) as it exists at the Society Islands, and other groups in the South Pacific Ocean; from Observations during the years* 1852 *and* 1853. By EDWARD F. PERKINS, M.D.

THIS remarkable disease, endemic in various regions, and inseparably associated with certain localities, does not prevail with equal severity throughout inter-tropical Polynesia. The geological features of islands constituting this division of Oceanica are so strongly marked that they may be regarded as constituting three distinct classes. Of these islands the volcanic are first and most prominent; recognized by their extent, great elevation,—4,000 to 14,000 ft. high; crateriform outline and rugged aspect. Those of the second class, present but few indications of volcanic phenomena; instead of the prominent igneous masses and lofty basaltic cliffs, the rocks are chiefly of lime-stone formation, solidified or rendered firm by exposure, and in some instances, fissured and cavernous. Their hills are rolling, with an elevation of from 100 to 500 feet above the level of the sea. The remaining division comprises all the low, coral islands or formations, so extensively scattered throughout the South Pacific, individually of limited extent, and presenting often the appearance of a tranquil lagoon encircled by a zone of verdure. Mr. Dana computes their entire area in this ocean to be 19,000 sq. miles, though but one-eighth of this extent is dry or habitable land. These small lagoon islands may be regarded as exempt from the disease under consideration, though it may exist among them sporadically, as will presently be seen. In certain islands of the two preceding classifications, it prevails with equal severity, and it is also interesting to observe, that in those regions where its effects are most apparent, certain physical conditions are present, which are not common to others of the same class, and totally exempt from the disease. These differences will be considered when remarking upon

the causes of elephantiasis. It prevails to the greatest extent in the Southern Ocean, between the equator and twenty-second parallel of south latitude, including the Georgian, Society, Marquesas, Austral, Friendly, Samoan, New Hebrides, and Strong's and Ascension Islands. The inhabitants of these groups, excepting those of the New Hebrides, and indeed, of entire Polynesia, from New Zealand on the south, to Hawaii on the north, a distance of 3,700 miles, are evidently all derived from one common family—the Malaysian, assimilated to each other in physical contour, language, habits, rites, and ceremonies. It cannot be entertained that the Society Islands, especially the subjects of these remarks, are constitutionally more susceptible to this deformity than other branches of this great family; although it will not be denied that certain hereditary habits or customs, influence, in no slight degree, its development.

We have recognized two varieties of elephantiasis, qualified respectively as *græcorum* and *arabum*. The former is tuberculous in character, and though resembling, in some respects, the latter, it is by far the most formidable variety of the disease, and its characteristic symptoms are so evidently *sui generis* that to it has been assigned a special and appropriate pathology. The form prevalent in Polynesia is the *Arabic*; the same that, with various modifications, exists in nearly every inter-tropical region of the globe. But slight notices of this disease are furnished by the records of early voyagers; Capt. Cook, in his last voyage, alluding to the Friendly Islanders, remarks:—

"There are, upon the whole, few natural defects or deformities to be found amongst them. The most common of which is the tetter or ringworm, that seems to affect almost the one-half of them, and leaves whitish serpentine marks everywhere behind it. But this is of less consequence than another which is very frequent, and appears on every part of the body. I had the mortification to learn that all the care I took, when I first visited these islands, to prevent the venereal disease from being communicated to these inhabitants,

had proved ineffectual. What is extraordinary, they do not seem to regard it much; and as we saw few signs of its destroying effects, probably the climate and way of living of these people, greatly abate its virulence. There are two other complaints amongst them; one of which is an indolent firm swelling, that affects the legs and arms, and increases them to an extraordinary size in their whole length. The other is a tumor of the same sort in the testicles, which sometimes exceeds the size of the two fists. But in other respects they may be considered as uncommonly healthy; not a single person having been seen, during our stay, confined to the house by sickness of any kind."

Capt. Cook has possibly regarded these results of elephantiasis, as arising from two distinct diseases, which is not the case. A residence among these nations, and a more intimate acquaintance with their language and domestic economy, would have convinced him that the evidences of disease everywhere apparent, could never exhibit themselves without more or less prostration of the vital powers.

The name of this malady is a synonym for all that is unseemly and repulsive; and the individual thus permanently afflicted, is doomed either to deformity, or paroxysms of excruciating torture, with barely a hope of relief, while he lingers on hideous in his misery. With the Tahitians,—and this name will designate the Georgian and Society Islands, (Tahiti being the principal island)—its name *Fée*, has become a word of reproach, and the imputation is indignantly repelled when the deformity can be readily concealed. Owing to the predisposition of the chiefs or higher classes to its attacks, it sometimes receives a less offensive epithet, and is spoken of, having reference to the social position of the sufferer, as "*te mai ari-i*" (the royal illness). Even members of the London Mission, suffering from its invasion, conceal, as far as possible, any evidence of their condition; there being the same abhorrence connected with this malady, only in a greater degree, that we are accustomed to associate with scabies, and other cutaneous diseases at home.

It is believed that the history of elephantiasis, as it exists in this group, will apply equally to all parts of Polynesia; though differing in certain features from the disease as it prevails in other regions of the earth—these differences are not sufficiently marked to constitute it a distinct variety; hence, it must be regarded only as a modification of a disease, having perhaps a common origin, and influenced in form and degree by various exciting causes. Its attacks are not confined exclusively to natives, its effects are witnessed upon residents and missionaries; especially was this observable among the pioneers of the mission, who, in 1797, were first stationed at Tahiti and the adjacent islands. Being compelled, by necessity of their isolated position, to conform somewhat to the native mode of life, it is said that all were affected by it, in a greater or less degree. It regards neither sex nor condition, and, except childhood and youth, no age is exempt from its attacks; the period of life most favorable to its development is from adolescence to confirmed virility; later than this its occurrence is seldom witnessed. It is most severe in young and strong individuals; but, notwithstanding the deformity and occasional recurrence of its paroxysms, the venereal appetite can hardly be said to be impaired by it, for persons thus affected marry, and the union is prolific. It is stated that this disease cannot exist in connection with another of a chronic nature. I have been informed by Rev. E. R. W. Krause, of the L. M. S., long a resident of these islands, that, could elephantiasis be induced in persons of a phthisical tendency, he would consider him secure from tuberculous affections. Not the least remarkable feature connected with the disease is, that it does not appear to shorten materially the natural period of existence. Cases are on record of persons who have suffered from it for more than fifty years, and finally have died from an entirely different cause. Many also who are affected with elephantiasis enjoy long intervals of freedom from paroxysms, and during this time are exempt from all other affections of a chronic nature. After the disease has been fully established

in a part, *i.e.*, permanent tumefaction has ensued, metastasis never occurs; one limb after the other, however, may be attacked, especially if the arm or hand be first affected, but, if primarily in the lower extremities, it is usually confined to them alone. It will be found to be a characteristic of elephantiasis, wherever it prevails, to affect those parts of the body where the circulation is least active, as in the lower extremities, and scrotum of males. Anchylosis of the knee-joint has been stated by writers to be one of the results of this disease, a reasonable conclusion, when it is considered that tumefaction may exist to such an extent as to be a mechanical obstacle to the free movement of the articulating surfaces. After witnessing instances of excessive deformity, I cannot recall to mind one of anchylosis of this important structure. It is regretted that no reliable data can be offered as to the proportion of inhabitants suffering from elephantiasis. The population of this group, once estimated by early voyagers at upwards of 200,000, is now less than 15,000; and of the per centage affected, it would be hazardous to venture even a random estimate. It may, however, be safely asserted that, of the inhabitants of Eimeo, an island adjacent to Tahiti, and second of importance in this group, also of Ruritu, one of the Austral Islands, that a tenth part are sufferers from its attacks. This is obviously an approximation; but in these, as well as certain other localities, evidences are too apparent to be mistaken.

So insidious is the invasion of elephantiasis, and its influences upon the system, that the individual has no suspicion of his condition, until suddenly seized with excruciating pain in either the inguinal or axillary gland, and, if a female, perhaps in one of the mammæ. Gradually swelling supervenes, until the gland becomes tense and indurated, and if the constitution of the patient be not completely involved in the disease, the swelling gradually subsides after an exacerbation of greater or less duration, according to circumstances, and he becomes convalescent. This may recur at intervals of weeks, months, or years, without proceeding to that characteristic stage of

deformity, resulting from induration and swelling of the integument and subjacent adipose cellular tissue. On the other hand, after the occurrence of this phenomenon, the patient experiences a smart attack of ephemeral fever; and subsequent to this brief duration, there is observed a reddish nodulated cord, extending from the point previously affected, along the lymphatics to the extremity of the limb, attended usually with violent and deep-seated pain, the seat of lesion being also acutely sensitive to the slightest touch. At this stage, suppuration may supervene at one or more points of the indurated lymphatics, to the great relief of the sufferer; but if this be absent, the second or third, sometimes so late as the seventh or eighth attack will be attended with rigor, lasting from four to eight hours, and subsequent burning heat, which continues from one to two days, terminating in copious perspiration. This fever appears to be of the true inflammatory type, being accompanied by great vascular and nervous excitement; respiration becomes labored, hurried—secretions diminished, attended often by nausea, vomiting, thirst, and a sense of extreme tenderness over the whole body. The nervous system is deeply involved; sharp, shooting pains seem to torture every part of the body, and the sufferer lies restless and jactitating upon his couch of dried grass and mats, his countenance expressing intense anguish or gloomy forebodings. In persons of delicate constitution or susceptible temperament, during the febrile paroxysms, special sensibility may be exalted, and delirium subsequently ensue, especially if the arm or mammæ be the seat of the disease. The natives describe their sufferings to be most acute, and affirm that every part of the body is in agony except "the hair and nails."

The affected limb, during an attack, becomes the seat of erysipelatous inflammation, of a dusky-red color, and is extremely sensitive; even the slightest covering causes pain. After the copious perspiration which succeeds the hot stage has subsided, the patient gradually recovers from the excessive debility or prostration, becoming ultimately convales-

cent. But the swollen limb remains, and with the apathy of despair, the native resigns himself to inevitable deformity, and periodic torture, which he believes will accompany him through life. This disease is now regarded as fully established, and its periodicity is sometimes observed with considerable regularity; in some instances only the brief immunity of two weeks intervening, although a year may elapse before the recurrence of another paroxysm. Subsequent attacks may be predicted with almost definite certainty a day or two previous to their occurrence, by a sensation of lassitude or drowsiness, inclination to yawn, etc., the symptoms resembling precisely those of an ordinary invasion of intermittent.

Elephantiasis Arabum is observed most frequently to affect the lower extremities; but besides these, the arms, mammæ, pudenda, scrotum, and penis, may be the seat of its lesions; I have never noticed its presence on either the face, neck, abdomen, or arms, where it has been noticed by some writers. It may attack but one limb at a time, and years sometimes elapse before it attains to that enormous development from the appearance of which the name of the disease has been most appropriately bestowed. Meanwhile the nodulated lymphatics become gradually obliterated, as the tumefaction continues slowly to increase; when it has attained its maximum size, the integument has a harsh indurated appearance, and not unfrequently deep furrows are observed where the skin is thrown into folds, producing always a frightful deformity. When the disease has been of long duration, the skin may assume a variety of appearances; frequently it has a dry, whitish aspect and is coarse and harsh to the feel, but beyond this there may exist nothing of a morbid character. Fissures, ulcerations, and excoriations of the cuticle may sometimes occur, and various other cutaneous affections may sometimes supervene. After careful inquiry, I could never learn that ulceration of the lymphatics, with tendency to gangrenous termination, ever existed, as also indolent and deep-seated abscesses on various parts of the affected limb, the direct result of this disease. But as often perhaps as one case in ten there will

be noticed a characteristic roughness of the skin, which may subsequently assume the scaly appearance of *ichthyosis;* it is thought that fungous growths are sometimes on the affected limb, but on this point nothing is confidently stated.

I do not know that an autopsical investigation of this subject has ever been attempted at the Society Islands; and it may not be uninteresting to notice the brief indications furnished by Cazenave, which are here appended:—"The skin is generally indurated, covered with yellowish scabs, or with thick incrustations, and is sometimes furrowed and covered with small, hard scabs, not unlike those of ichthyosis. 1.—The epidermis is greatly thickened, furrowed, and firmly adherent. 2.—The papillary bodies are highly developed and perfectly distinct from the cutis. They are described by Andral and Chevalier as being elongated, enlarged, and prominent. 3.—The true skin appears considerably thickened and hypertrophied, sometimes to the extent of more than half an inch. 4.—The cellular tissue is also greatly increased in density, and sometimes contains within its meshes a semi-fluid gelatinous matter; but it is more commonly indurated, slightly schirrous, and becomes lardaceous as it approaches the cutis. 5.—The muscles are generally pale, soft, discolored, and atrophied. The veins are sometimes found obliterated, and, in the case reported by M. Bouillaud, this obliteration extended even to the vena cava itself. No other lesion is found which can be referred to this disease, except, occasionally, glandular engorgements in places remote from the seat of the disease." Rayer has furnished a more elaborate summary than the preceding, which presents some interesting facts relative to the ossification of certain structures; the cause of enlargement he attributes especially to the deposition of serum or coagulable lymph within the cellular tissues.

It is truly surprising to observe how comparatively slight is the inconvenience accompanying this frequently irremediable deformity. A stranger, who for the first time visits any portion of Polynesia when this disease prevails, is startled

in the midst of such pleasing reviews as an enchanting landscape can awaken, at beholding among the little athletic forms of the obsequious natives, a sort of nondescript monster, which for the moment completely rivets his attention. This singular being moves among the crowd upon his collossal pedestals, which protrude naked in all their hideous deformity beneath the folds of the *parέw*, curious to behold and welcome the stranger, although the mutual interest excited by each other's presence be of an entirely different character. A native resided near me whose age exceeded thirty-five years, who was shockingly disfigured by this disease in the left lower extremity. Almost from the base of the toes the hypertrophy commenced, and the swelling continued nearly of the same size to the upper part of the thigh, the integument thrown into rugas, and here and there marked by discolorations, so that a more elephantine appearance in a human being could not well be imagined. Yet the inconvenience he experienced in the discharge of his ordinary vocations was comparatively slight, though his gait was somewhat dignified. He would stand upon the edge of the coral reef when the surf was breaking furiously upon it —watch his opportunity—dive through it and swim off to a ship with an incumbrance of green cocoa-nuts fastened into a large bundle by the husks—deliver them, and return by the same means.

The most inconvenient seat of the disorder is the scrotum; this, during the course of years becomes enormously hypertrophied, extending in rare instances nearly to the ankles. There were two such cases within a short distance of that part of Raiatea, in which I temporarily resided; one in the district adjoining, the other on the adjacent island of Taháa. With these no vestige of a penis was visible, owing to the tumefaction which completely buried it from view, leaving only an umbilicated orifice, through which the urine was discharged, usually surrounded by painful excoriations as a necessary result. When walking, which was seldom attempted, this unsightly appendage was supported in front in a kind of

sack, suspended from the neck, or if this form of convenience was omitted, the legs were extended to their utmost, as with awkward efforts they made the attempt. I have noticed this hypertrophy of the scrotum in Mexico, but never saw it extend below the knees. Such evidences are sufficient to awaken in the mind a vivid repugnance toward so disfiguring a disease, and a dread of its insidious approach, independent of the excruciating paroxysms attending its progress. But we familiarize ourselves with misery, and even elephantiasis may cease to awaken painful impressions, as we become accustomed to its deformities; more especially when its presence is no obstacle to the ordinary vocations of life, and is attended by a cheerful resignation to an apparent destiny.

As to diagnosis there can be no possibility of mistaking the malady when it prevails among the inhabitants of Polynesia, inasmuch as in those regions there exists no other disease bearing the slightest approximation to it in character. When met with on continents, there may, at first, be some danger of confounding it with anasarca or œdema. But even this error could not long continue after a careful investigation of the history of the case; for while tumefaction in one instance is the result of lesion of some internal organ, in the other it is of a purely local nature, the general functions remaining unimpaired.

The prognosis is most unfavorable, especially when the disease has become permanently established, and the induration and furrows are prominent features. A favorable termination may only be hoped for when the disease is encountered in its early stages, and a systematic and energetic course of treatment is pursued.

It will not be attempted to enumerate the various modes of treatment suggested by continental writers. There is one form of local treatment, however, resorted to in the Hospital of St. Louis, which, if promptly applied, cannot be otherwise than beneficial. This consists of compression, iodine frictions, and the vapor douche. This conclusion is deduced from observing the effects of a somewhat similar

course of treatment pursued by the natives themselves. Immediately preceding an attack, those who attend to their condition, drink a cocoa-nut shell of sea water, to act as a purgative; then a quantity of herbs are gathered and thrown upon stones already heated. As the vapor arises, the affected part is fully exposed to its influence, while at the same time assistants keep up for a considerable interval, a gentle species of friction or shampooing with the hands, called in the native dialect *táu-ro-mi-ró-mi*, a simple kind of medication common throughout Polynesia. This, of course, does not obviate the constitutional tendency to periodic attacks, but is nevertheless attended with this advantage if perseveringly followed, which is, to prevent the enormous swelling. Two natives, *Haw má-ne* and *Te-ha-é-re*, were both attacked at the same time, sixteen years ago. The first has steadily pursued this treatment. Although at the commencement he had a paroxysmal attack every two months; the swelling of the leg has been wholly prevented, and, at the present time, remains of ordinary size; while both lower extremities of the other, who was too indolent or indifferent to pursue this course, soon became swollen, and the result has been complete and permanent deformity.

Having never witnessed the treatment of this disease, I am guided in my remarks by conversations with Mr. Krause, the gentleman to whom allusion has already been made. His own success in treatment, considering the limited means at his disposal, has been so signal that I cannot forbear giving it in his own words:—"Soon after my arrival at Raiatea, in 1842, Mr.——, one of the resident missionaries, wished me to see whether I could do anything for his son, who for some time had been suffering from elephantiasis. Being unacquainted with the disease, I requested time, for the purpose of making observations among those affected, also to familiarize myself with its phenomena; hoping by this means to obtain some available hints with reference to treatment. Various reasons, especially the nature and periodicity of the attacks, induced me to use quinine; which was administered

early on the morning of the expected attack, for five consecutive hours, viz.: from 4 to 8 o'clock inclusive, 2 gr., each hour; in all 10 grs. At 9 o'clock the patient partook of a light breakfast. In this way I found I could produce the greatest impression with the smallest quantity of quinine. As the patient can always, in fully established elephantiasis, predict the attack for at least twenty-four hours, I always give, as soon as these indications are noticed, a dose of epsom salts, which in itself appears to shorten, somewhat, an attack; and, I think, prepares the system for the quinine. In the case of Mr.——, the swelling disappeared so rapidly under this treatment, that I feared a metastasis; and consequently set an issue on the other leg, which I kept open for six months. A year elapsed without any recurrence of the disease, when one day he drank a small bottle of ale, which, as well as all other alcoholic stimulants, I had forbidden, and very soon experienced a fresh attack; which so frightened him that he has abstained from such exciting causes ever since; and up to this time has had no recurrence of the disease."

Even this desultory description is of interest, inasmuch as an eminent European authority, who has given this disease a passing consideration, believes internal remedies to be generally of no avail. Mercurial frictions have been recommended, as well as general depletion by venesection; but such remedies at the Society Islands have failed, and are now abandoned. Dr. Carnochan, of this city, reports having cured a severe case of elephantiasis, by ligation of the femoral artery; but we cannot regard simply this subsidence of tumefaction as a radical cure of the disease, without a reasonable number of well-authenticated precedents. Dr. Hendy mentions the case at the Barbadoes, of a female who submitted to amputation of a hypertrophied limb on account of its inconvenience. Immediately after, the other was attacked, and with such severity as to cause premature death. Being personally acquainted with the patient of Dr. Krause, I can vouch for

the truth of his present condition, which apparently exhibits not the slightest trace of disease.

When foreigners suffer from elephantiasis (almost exclusively *attachés* of the London Mission), they resort to the cooler climates of South Australia or England, where its progress is immediately checked; but if confirmed swelling have already supervened, its subsidence is never ensured.

Few subjects can furnish a more interesting theme for scientific study than the investigation of the etiological phenomena of this disease. Notwithstanding the primitive obscurity still associated with it, it is gratifying to know that certain physical aspects almost essential to its presence, enable us to point out, with considerable accuracy, those features incompatible with its existence; thus, negatively, reducing it within prescribed limits, and perhaps enabling us ultimately to arrive at satisfactory conclusions as to its true origin. Remarks upon this point have reference almost exclusively to Polynesia, yet to a certain extent may apply to all inter-tropical regions throughout the globe, where this disease prevails. It is only when we trace its presence in the temperate regions of Europe, where in some localities it is endemic, and in others sporadic, that difficulties arise to prevent the attainment of satisfactory results upon the subject. Yet it is confidently believed, that could a careful summary of statistics, with reference to the hygienic and physical conditions of these regions be obtained, certain striking coincidences would be found to exist, that would materially circumscribe the vague speculations as to its cause, and furnish a more definite basis for investigation. Rayer professes ignorance upon this subject, while Hendy, in his treatise on the "Barbadoes leg," makes prominent reference to exposure to cold draughts of air, to which the residents of those islands are subjected, owing to the slight construction of their tenements. Admitting these to influence the disease, which they undoubtedly do, there remains for us but vague conjecture as to its essential origin. How numerous are the instances in inter-tropical regions where the habits of the

natives expose them to precisely similar conditions, and yet the disease is only known among them by name.

The physical aspect of those regions in which the disease is endemic will be first considered, to be subsequently compared with other countries exempt from its influences, when such reference appears applicable. The Georgian and Society Islands, constituting only a single group, are eight in number, and lie between the sixteenth and eigteenth parallels of south latitude, and are bisected by the hundred and fifteenth meridian of west longitude. Like other first-class groups, they are of volcanic origin and furnish geological evidences of remote antiquity. Even a superficial observation reveals this: each island appears to be an immense cone shot up from the ocean, rent asunder by igneous convulsion and as suddenly congealed. But the asperities of such chaotic origin during the ages that have supervened, have been softened and harmonized by the changes successively wrought. Masses of the old volcanic rock have crumbled away, and have been washed down the valleys and ravines, to unite with the labors of saxigenous polypi, in forming a formation for the rich *debris* or alluvial deposits, to be furnished chiefly by the growth and decay of generations of forests. These mountains, valleys, and bottom lands are covered with luxuriant vegetation, where a profusion of luscious fruits grow spontaneously. To the low or bottom lands is allusion especially made in connection with this subject; these are the only portions of the islands occupied by natives and foreign residents. They extend around each island; and, in proportion to dimension, varying in breadth from a few rods to more than a mile, from the edge of the lagoon to the mountain spurs; and when to this is added the broad expanse of the valleys, the area of tenable surface is considerably increased. These bottom lands are low and not unfrequently barely elevated above the water margin. When during the rainy seasons a severe storm prevails, the perpetual surging of the waves against the coral barrier, which everywhere surrounds the islands, forces more water into the lagoon than can be

discharged by the natural channels through the reef. In consequence of this the flood is forced back upon the land, trees are uprooted, habitations and life destroyed by the violence of the gale and inundation; such devastating storms are happily rare, but their effects continue long after their ravages have ceased. Nearly all the valleys are well watered; in many districts the land is low and swampy, where the streams disembogue into the sea. Here vegetation is unusually rank and luxuriant, and in, or adjacent to, such places as these the natives frequently erect their habitations, where during the summer season the atmosphere seems reeking with humidity, spots which on the continent would be shunned as the abodes of pestilence.

Reference to the physical characteristics of this group would be incomplete were not a passing remark made respecting its meteorological phenomena. Its situation within the tropics insures for it the refreshing influence of the south-east trade winds, which, with slight variation, blow steadily three-fourths of the year. By these, the condensed vapors of the ocean are borne along in clouds, and encountering in their flight these lofty summits, gather around them like a vast reservoir, and bursting, discharge perennial showers over the land, to cool and fertilize the soil, refreshing the more elevated region with a climate of perpetual spring. The heat of the lowlands, however, exposed to the direct influence of the sun's rays, is often more oppressive, owing to its steady continuance, the thermometer at times averaging to exceed 80° Fahr.; during the winter or rainy season, for long intervals, the atmosphere is excessively humid, and is perceptibly cooler. The thermometer ranges higher here than at the Sandwich Islands, and the heat is more oppressive than is experienced at islands immediately beneath the equator.

To the presence of the trade winds are the islands of the Pacific in a great degree indebted for their immunity from numerous chronic and miasmatic affections that prevail on continental shores; allusion to this subject will again be made when referring particularly to the causes that influence or

originate the disease under consideration. The preceding observations will apply in all essential points to other groups or islands where the malady is endemic; and from their application it is asserted, that, *marshy regions, or their vicinity, and continued humidity are necessary to the development of elephantiasis.*

There are in the island of Borabora two districts noted for engendering this disease; they are marshy and are exposed to violent gusts of wind and sudden atmospheric changes. Nearly every person residing in these districts is more or less affected, while those whose habitations are on the leeward side of the island are comparatively exempt from its influence. Let us glance for a moment at the Sandwich Islands, resembling in many respects those to which special reference has been made, being also inter-tropical. The important differences, worthy of remark, are, the greater elevation of the lowlands bordering the sea, which slope gradually upward in gentle acclivities; and the almost entire absence of those swampy tracts bordering lagoons, so prominently characteristic of the Society Islands. The country is more open to the influence of the sun's rays and winds,—consequently possessing a less humid, and more agreeable climate. Everywhere are scattered more recent evidences of volcanic action; huge basaltic bowlders and trappean cliffs are abundant, and entire districts, miles in extent, are covered with slag and scoriæ. The dark lava flood has been rent asunder, leaving unfathomable caverns and fissures; and, as if tossed and whirled in a semi-fluid state, the molten flood has congealed in chaotic form, as if the alluvial and trachyte soil were scattered upon a foundation too broken or porous to retain the floods that during the rainy season are poured over upon it—no lakes, swamps, or stagnant pools are found upon its surface, unless artificially formed for purposes of cultivation. In this group I have never witnessed a case of the disease, yet, in many respects, the natives are closely assimilated to those of the Society Islands. The same may be said of the New Zealanders, another conspicuous

branch of the Polynesian family, among whom, so far as my observation extends, there is complete freedom from its presence. Lying in the south temperate zone, the appearance of the country resembles, in essential points, that of the islands just mentioned. Elephantiasis prevails in certain districts of Japan, but, at the Bonin Islands, a few degrees S.E. of this empire, I have never witnessed anything approximating to it, although my sojourn at this group was sufficiently long to familiarize me with everything of interest pertaining to it. They are of volcanic origin, exempt from marshes, and other permanent sources of humidity, and possess a climate cool and invigorating.

Fourteen degrees south of this group lies Guano, the principal of the Ladrone Islands. Whether elephantiasis exists here or not, I am unable to state; during a limited sojourn at Apra, no evidences of it were noticed, nor did any inquiry on this point at the time suggest itself. The general contour of the country resembles in many respects that of land in which the disease is endemic, and there can be but little doubt but that investigation would reveal its presence. It is hardly to be expected that early voyagers should always make reference to it, as their opportunities for observation were circumscribed. Dampier, however, who visited Guano, in 1686, furnishes us, in his minute and quaint style, with a very brief description of a certain form of cutaneous disease that prevails here, the same so often associated with elephantiasis in other parts of this ocean. "This distemper runs with a dry scurf all over their bodies, and causeth great itching in those that have it, making them frequently scratch and rub themselves, which raiseth the outer skin in small whitish flakes, like the scales of a little fish when they are raised on end with a knife. This makes the skin extraordinary rough, and in some you shall see broad white spots in several parts of their body. I judge such have had it but were cured; for their skins were smooth, and I did not perceive them to scratch themselves; yet, I have learned

from their own mouths that these spots were from this distemper."

Nearly in the middle of this ocean and near the equator, are the Kingsmills Islands, the natives of which are exempt from elephantiasis. A few degrees to the westward are Strong's and Ascension Islands, and here it prevails. A superficial glance at the geological differences furnishes an explanation. Tne former are low and sandy, producing but a limited variety of vegetation; while the latter are hilly or mountainous, a considerable portion of the land being swampy and uninhabitable. Twelve hundred miles west of Tahiti are the Samoan or Navigator Islands, surpassing in extent and utility the group of which Tahiti constitutes the nucleus. Here elephantiasis prevails to a frightful extent, and the visitor at Upólu will be pained to witness the startling evidences of its presence, amid the beautiful scenery for which this island is celebrated. The reason may be anticipated; as at the Society Islands, there are numerous marshy districts near the shore, besides certain habits and forms of diet, which are found to co-exist with the disease. The characteristic features will be found at the Huay, Austral, and it is believed all other islands in this ocean where the disease prevails.

After these statements the presence of some species of miasm would suggest itself, which is by no means maintained under existing circumstances, certainly not that which generates the intermittent or continued varieties of fever. One of the brightest hygienic features of Polynesia is the absence of all hepatic or biliary diseases, the exanthemata, or most other varieties of fever, unless introduced from abroad; Idiopathic fevers are unknown; a sufficient proof of this may be found in the fact, that nearly all these groups or solitary islands are visited by the American whaling fleet in the Pacific, and on such occasions the seamen are exposed in every possible manner to the influences of climate by unrestrained intercourse with the natives; and we have yet to learn that any have suffered from the effects of malaria of specific character, so prevalent among the West India Isles.

All the requisites for the production of miasm are present; heat, moisture, and vegetable decomposition, and the absence of its characteristic influence appears certainly remarkable. An explanation of this phenomenon, with reference to Polynesia, is offered, which is simply this: the remoteness of these islands from the malarious influences of either continent; the purity of the atmosphere so constantly maintained by evaporation from so vast an ocean, and more especially the refreshing influence of the trade-winds that blow steadily three-fourths of the year. Several districts are favored by the sea-breeze during the day, and by the land-breeze from the mountains at night.

These somewhat digressive remarks furnish no data for supposing that marshy regions exert a specific influence in the production of elephantiasis; but that they are associated with its development, must be sufficiently apparent from the facts enumerated.

Native habits and certain kinds of food exert an important influence in developing this disease, but these remarks have already been extended too far to give this subject more than a passing glance. Fermented foods are used more or less extensively throughout Polynesia, and to this may be owing the intractable cutaneous diseases everywhere prevalent. The breadfruit, a staple article of food, is indigenous to all the first-class islands of Polynesia; but a form of preparing it by the natives where elephantiasis prevails, deserves a hasty notice. During the harvest of this excellent fruit, the inhabitants of a district assemble, and the ripe spheres are gathered and piled upon the ground; they are then deprived of their rind by the men, who scrape them with a shell of mother of pearl. Each sphere is then quartered, the core removed and placed in excavations in the earth which have been previously prepared and lined with mats and leaves. The whole is then carefully covered with the same material, to protect it from the earth piled above. In this situation it is permitted to remain for many months, before the reservoirs are opened, and portions removed as necessity may

require. Breadfruit thus prepared is called *ti-o-ó* (te-oh-óh), and, as might be supposed, is in every respect offensive to the European sense. The inviting appearance of the yellow and nutritious pulp is no longer recognized; the mass has fermented and become literally black and putrid, omitting an offensive odor; yet this repulsive material, after a slight culinary preparation, is consumed by the natives as was done by their ancestors before them. Even more, it is to a certain extent an article of commerce in connection with the pearl fishery. Of this *ti-o-ó*, it can be affirmed, that, after a native has partaken freely of it, fever, more or less severe, is almost sure to follow. So significant is this fact, that when a native meets another affected with certain symptoms, he unhesitatingly affirms that he has been eating *ti-o-ó*. It is stated, but I cannot vouch for its truth, that the pearl divers of the Paumotu or low Archipelago, who at their request are supplied with this food by those who avail themselves of their services, are often prostrated by the characteristic symptoms of elephantiasis. It is believed that in whatever island or group this substance is used as food, the formidable disease will be found.

Whatever influence this, and other varieties of diet, almost equally offensive, may exert in developing the disease in natives, the cause lies deeper when we discover its existence in Europeans. The early missionaries were exposed to many hardships and privations in the South Pacific, but it cannot be supposed they partook of a diet so offensive. Changes of climate, inactive mode of living, and insecure habitations, would tend to favor the invasion of the disease; at the present day the inactivity attending the daily routine of many Protestant missionaries in this enervating climate, is almost sufficient in itself to induce a pathological condition of the system, independent of elephantiasis. Foreigners leading an active life, appear to be exempt from its influences; but discharged seamen and the refuse of society, who lead a life of idleness and dissipation among these gardens of the ocean, assimilating themselves to the native mode of life,

are most liable to be affected. The case of a young Englishman with whom the writer is acquainted, will suffice for an illustration of this.

Many years ago, when quite a lad, the vessel to which he was attached, touched at Huahiue, an independent island of this group (S. I.), the queen was pleased with the young man, and at her earnest request he was permitted to remain. Years passed and he became assimilated to the natives in habit, *i. e.* indolent, licentious, and dissipated when opportunity offered. Domestic wars ensued; the "beach comber" was thrown upon his own resources, and one tempestuous night during the rainy season, when the sea broke over the coral barrier and swept inward like a flood, he was compelled to pass the night clinging to the branches of a tree for support. in the midst of the rain and eddying waters. When subsequently rescued from his perilous situation, a violent febrile attack supervened, the harbinger of the dread disease, and since then he has remained an incurable victim of elephantiasis.

Lastly, if we except licentiousness which is common to all Polynesia, both the habits and habitations of those exempt from elephantiasis are peculiarly different. While they indulge less in fermented and intoxicating food and beverages, they are more industrious, and some of them cultivate the soil; their domiciles more thoroughly protect them from the inclemency of the weather and sudden changes of temperature. When to this we add the concurring relation of certain natural phenomena, we comprehend at a glance the essential conditions that combine to influence this formidable disease.

ART VIII. — *Abstracts of the Proceedings, Papers, etc., of the Medical Societies of New York.*

ACADEMY OF MEDICINE.

REGULAR MEETING, March 5th, 1856. Dr. WILLARD PARKER, *President.*

CARBONIC ACID GAS AS AN ANÆSTHETIC IN UTERINE DISEASES.

A COMMUNICATION was read from Prof. SIMPSON, of Edinburgh, addressed to the Academy, *On Carbonic Acid Gas as a Local Anæsthetic in Uterine Diseases, etc.*

It appears that Prof. SIMPSON was led to the use of carbonic acid gas as a local anæsthetic in painful conditions of the vagina, uterus, and neighboring parts, from reading the case of a lady, treated by Dr. Rossi, of Italy, and reported in the second edition of *Pereira's Materia Medica*, vol. 1, page 155. In this case there was no organic disease, and merely an increased irritability, which was completely relieved by the injection of carbonic acid gas.

Prof. SIMPSON has frequently resorted to this treatment within the last two or three years; and, though not always with success, yet frequently with great relief, and occasionally with immediate benefit. Several cases were given in illustration. One lady who had been bed-ridden for years from pain, and bearing down when standing erect, was almost entirely cured by injections of this gas.

His method of applying it is, to use a bottle having a flexible tube attached to the cork. The materials used for generating the gas, are tartaric acid, six drachms; bicarbonate of soda in solution, eight drachms; and water six ounces. The injection may be used several times a-day. Other materials may be used.

Prof. SIMPSON adds, that the employment of carbonic acid gas as a local anæsthetic to the uterine mucous surface and other parts of the body, is not a recent discovery. Dr. Dewees, of Philadelphia, speaks favorably of it in his work (*Dis. of Fem.*, page 269). Prof. Mojon, of Geneva, has used it frequently, and with decided advantage.

Referring to ancient writers, the author is disposed to consider the practice of burning certain aromatic and medicinal herbs, and applying the fumes to the interior of the vagina by means of proper tubes, to be but another phase of this practice,—as carbonic acid is the result of such combustion.

He also ascribes the beneficial effects of mineral waters, in many cases at least, to the topical application by means of baths and injections of these waters, which generally hold in solution large quantities of carbonic acid. Female patients have assured him of the relief they

experienced from uterine pains, while using injections of the waters of springs, as practiced at different German baths. The same is true in certain cutaneous diseases. The common effervescing draught, in gastric irritability and nausea, acts on the same principle. The injection of carbonic acid gas in dysentery, as practiced with success, by Hey, of Leeds, in 1772, Perkins, etc., is directly in point. The benefit of the common yeast poultice, which gives rise to carbonic acid gas, may be similarly explained. Many other examples were alluded to in the paper, showing how frequently this agent is used in practice without recognition of its anodyne properties.

Dr. Detmold remarked that members would recollect that, about the year 1847, he called the attention of the Academy to certain propositions, which he then made, proving quite conclusively that carbonic acid gas is the efficient agent in causing anæsthesia. The carbonic acid may be given as such, or one of its chemical ingredients may be so administered, that, finding in the blood the other constituents of this compound, carbonic acid gas is generated, and anæsthesia, to a certain extent, is the result. Thus we may administer oxygen in large quantities, in the form of nitrous oxide, (protoxide of nitrogen, or laughing gas,) which has all the chemical reactions of oxygen, but is much more soluble in water and the serum of the blood than pure oxygen, and, therefore, is much more readily taken up. This compound meeting with the carbon of the blood, carbonic acid gas is formed in large quantities, with the production of anæsthesia to a certain extent. Or we may, on the contrary, administer the carbon, as the oxide of carbon or any of the hydro-carbons, alcohol, the ethers etc ; in this case the blood again furnishes the other constituent of carbonic acid, oxygen, and anæsthesia is again the result.

The stage of excitement corresponds to the period of combination of these elements and the formation of the carbonic acid gas. If the gas is administered as such, there will be no stage of excitement, but if the constituents combine slowly, and the gas is generated in limited quantities, there will be a corresponding stage of excitement. Thus, in the stupor of drunkenness, carbonic acid is exhaled in normal quantities, but as the stupor passes off, large quantities of that gas are exhaled. The venous state of the arterial blood, during anæsthesia, is another proof that carbonic acid is being generated in large quantities. If it is true that in post mortem examinations of those dying while under the influence of chloroform, bubbles of air are found in the heart and blood vessels, it is highly probable that this air is car-

bonic acid gas, unless, perchance, it has entered the circulation by some mechanical lesion.

The only means, in his opinion, of any avail in restoring a patient from profound or fatal anæsthesia, is artificial respiration, or such other means as, by exciting reflex action, will restore respiration, and thus hasten the elimination of the carbonic acid gas. It has been recommended in threatened and apparent death from anæsthesia, to resort to the inhalation of oxygen or nitrous oxide. Reasoning from the premises which he had given, such remedies would be in the highest degree dangerous. To satisfy himself in regard to this fact, he had made numerous experiments upon animals, and invariably found a fatal issue hastened by administering oxygen.

The subject of anæsthesia by carbonic acid gas, as illustrated in Prof. Simpson's paper, and the remarks of Dr. Detmold, elicited marked attention, and will lead to many practically useful deductions. This essay will in due time be published by the Academy, and will attract much attention from the novelty of the views expressed.

April 2, 1856.

Atelectasis of the Lung.

Dr. S. Conant Foster read a paper on *Atelectasis Pulmonum* (imperfect expansion of the lung), preceded by the history of a unique case of this peculiar affection. The patient was a child, fourteen months old, of general good health, which was seized with obscure symptoms, as fever, abdominal tenderness, slight cough, and an interrupted respiration, which consisted in the child's holding its breath at the end of each inspiration. The examination of the chest detected only dullness over the middle lobe of the right lung. Although the patient's general symptoms improved somewhat under treatment, still, the peculiar respiration continued—it refused nourishment, and gradually sank, and died. Repeated examinations of the chest elicited no new facts in regard to the lungs, except the existence of a slight bronchitis. The autopsy revealed a healthy state of the left lung and heart, while the entire right lung was in the condition described as atelectasis. The upper lobe was united to the thoracic parieties, and the lower lobe to the diaphragm by old, and very firm, false membranes; recent false membranes was also found in cavities formed by the old.

The adhesions of the lungs to the ribs, Dr. Foster considered to be congenital, and gave rise to the phenomenon of interrupted respiration already alluded to; and which had been noticed since its birth, being especially well marked when the child was sick. The order of sequences which he is led to make in the progress of this case is as

follows:—bronchitis occurring, while the child was teething, led to atelectasis of the middle lobe; embarrassed respiration, and hyperemia, consequent upon this change, increasing the traction upon the old adhesions, led to inflammation and effusion at those points; these conditions reacting, increased the tendency to atelectasis (imperfect expansion of the lungs), and the whole lung became involved.

The author then entered upon an extended and interesting examination of the literature of this disease, and the various opinions which had been advanced in regard to its true pathology. He accepts the term atelectasis, as given to this affection by Jörg, who first called attention to it in 1835. This author showed, that in new-born infants, it was not due to preceding inflammation, but the simple persistence of the fœtal state. Various opinions were subsequently expressed as to the nature of the change in the lung, and it was generally described as the result of inflammatory action, until 1844, when MM. Bailly and Legendre, by the simple act of insufflation, proved that the collapsed lung could be restored to its healthy state, and, consequently, could not have been the seat of an inflammatory process. The microscope also reveals only lung tissue in these cases.

The writer then proceeded to consider the different varieties of atelectasis: first, that occurring in the newly-born, where, from debility of the child, or the impaction of mucus in the bronchial tubes, the lung is but imperfectly expanded, on the first attempts at respiration; second, that occurring after complete expansion of the lung, where, from the stoppage of the bronchial tubes by mucus, the result of acute or chronic catarrh, the lung returns to its fœtal state. The causes of this condition of the lung are, evidently, those which impede the entrance of air into the air-cells. They are, therefore, those which either enfeeble the respiratory system, or, by clogging the air-tubes, prevent the entrance of air to the cells.

He drew attention to the fact, that atelectasis is a very frequent sequel of hooping-cough, and has frequently been mistaken for pneumonia. It is a little remarkable, that Dr. Alderson, in a paper published so early as 1830, (*Med. Chir. Trans.*, vol. xvi.,) on the *Pathology of Hooping-Cough*, describes this condition of the lung in the fatal cases from this disease. He considered it the result of inflammation, and treated it accordingly. Pneumonia in infants is, in Dr. Foster's experience, a very rare disease; and when it does occur, is as readily diagnosticated as in the adult. This is a fact of great practical importance, as the treatment must be very different—atelectasis more

often being a disease of debility, while pneumonia is one of inflammation.

The paper closed with remarks upon treatment. This consists, essentially, in the use of stimulating and invigorating remedies, externally and internally, and regulating their employment by the degree of febrile excitement, which bronchitis or some existing disease may induce.

The subject of this paper is one of such practical importance in infantile therapeutics, and, withal, so little studied and understood, even by our most scientific physicians, that Dr. Foster has rendered the profession an essential service, by bringing it before our largest medical society in so elaborate a discussion of its history, pathology, treatment, etc. The essay, when published, will be a valuable contribution to our knowledge of this obscure affection.

SECTION ON SURGERY.

Regular Meeting, April 6th, 1855. Dr. Detmold, *Chairman*

Condition of muscles of a Limb long under Treatment for Fracture.—The paper of Dr. Buck, *On the Treatment of Badly United Fractures*, was laid before the Section. The discussion which followed its reading related principally to the condition of the muscles of a limb long under treatment for fracture.

Dr. Watson inquired of Dr. Brown Sequard, who was present, if muscle long contracted could be stretched without rupture.

Dr. Sequard replied in the negative. He remarked that in certain forms of paralysis, as that occasioned by lead, the muscular structure is entirely obliterated; while in other instances, as in paralysis from simple disease, there are still traceable in the degeneration which has taken place, some remains of muscular fibre. In cases where the entire muscular fibre has disappeared, there can be no regeneration of muscular tissue; but in the more ordinary forms of paralysis, where there is still a trace of true muscular fibre, the muscle may be again developed. The condition essential to this re-development is an increased vascular action in the part, and, in consequence, an increase of nutrient material. For this purpose, exercise of the paralyzed limb, friction, electricity, etc., are useful. Electricity acts beneficially, not on the principle of exercising the degenerate muscle, but in causing a congestion of blood in the part by its action upon the nerves supplying the capillaries and inducing their relaxation, thus admitting larger currents of blood.

Dr. WATSON stated that no exact limits could be fixed to the time when re-fracture was inadmissible,—the individual case, with the attendant pathological changes must be the guide, not any arbitrary rule. Sir Astley Cooper fixed the limits at from three weeks to six months. He had a case of a seaman where he could not re-fracture at the end of three weeks.

Dr. DETMOLD mentioned the case of the daughter of one of the Foreign Ministers, where both bones of the forearm were fractured and united with considerable deformity, the ulna being much bent. On attempting refracture the ulna yielded, but the radius did not; thus showing that in the same individual the strength and completeness of the callus of different bones varies in a given period

On motion of Dr. Stone the paper of Dr. Buck was referred to the Academy for publication.

Hernia Treated by Subcutaneous Injection.—Dr. WATSON remarked that Dr. Pancoast had successfully used a subcutaneous injection for the cure of hernia, and more recently it had been successfully practiced by a quack in Boston. He had himself resorted to similar injections three times. Being unsuccessful in obtaining the instrument used by the Boston practitioner, as it was patented, he performed the operation on a patient in the N. Y. Hospital, using tr. lyttæ; the operation was successful; the patient, after being a year at sea, wrote him that he had no return of his former complaint. In the second case he was less successful,—the patient was a laborer. The same injection was used and was followed by severe inflammation and suppuration. He got better, but on walking about, the hernia again came down; it was not so large, however, and Dr. W. advised another operation, which the patient refused. In the third case, a negro, he used the instrument which he exhibited to the Section; being an ordinary syringe, armed with a trochar, at the base of which were two minute openings, where the fluid escaped into the surrounding tissue which the trochar traversed. The object is to set up inflammatory action around the sac, at the external ring. Recent cases are most favorable.

Dr. DETMOLD modified the instrument used by the Boston practitioner, using a screw piston, and injecting but a single drop of oil of cloves.

A New Form of Ear Syringe.—Dr. MINER exhibited an ear syringe,—the invention of Dr. Hullihen, of Wheeling, Va. This gentleman has proved himself to be an ingenious and accomplished surgeon, by the invention of an admirable instrument for operating upon cleft

palate; and, by an original and very successful operation for a deformity arising from the cicatrix of an extensive burn of the neck, which was published some years since in the *Philadelphia Examiner.*

The syringe is composed of a small pewter cup, about three and a-half inches in hight and about two inches in diameter. Standing perpendicularly in, and soldered to its side, is a pewter syringe with suction and force power, extending to the bottom of the cup. The nozzle turns upwards, running up its side in the form of a small tube until it reaches a little above the cup rim, where it turns horizontally, projecting a little beyond and immediately over a semilunar "score" in the rim of the cup. The instrument being filled with the fluid to be injected, the nozzle inserted into the meatus, and the lobe of the ear placed in the "score," it will be found that the side of the cup rests in the fissure formed by the angle of the jaw and the sterno-mastoid muscle; and that it will be impossible even for the most careless person to injure the parts by inserting it too deeply, or in the wrong direction.

No assistant is needed in its use, the patient himself being able to apply it, and keep up a continuous, gentle, or stronger stream, as his sensations may direct; a most important consideration, as those well know who have ever experienced the pain arising from too strong a stream directed against the tender membranes of the tympanum and meatus. The lobe of the ear acts as a sort of gutter, and directs the refluent fluid back again into the cup, thus keeping the most spotless collar free from moisture. It is not necessary even to remove the cravat.

Any one who has experienced the trouble and annoyance of one or more assistants, a basin, a towel to absorb the overflowing water, removing the cravat and collar, etc., will know how to appreciate such a convenience as this syringe.

Dr. H. designates his instrument the "Wheeling Ear Syringe."

April 20th, 1855.

Compressed Sponge in the Treatment of Cancer.—Dr. Sayre related the following case:—Mrs. W., aged 38; of good constitution; came to him in 1850, with an enormous tumor involving the left breast, extending from the clavicle to the lower edge of the sternum, and upward to the axilla, so as to elevate the arm. It had a boggy, nodular feel, with irregular elevations; color, purple; veins, blue and distended. There were two points which were prominent,—size of a hen's egg, and fluctuating; the skin appearing as if about to break. There was also a cicatrix where, several years before, caustics had been used to remove

the disease. She was feeble, emaciated, anæmic, and her general system was apparently rapidly failing.

The disease was of about five years duration, and during this time she had been subjected to a great variety of treatment.

His diagnosis was fungus hæmatodes; this opinion, she told him, was in confirmation of Dr. Mott's, Rodger's, and several other surgeons, to whom she had submitted her case. They had refused to operate, and she came to him to have it removed. Extirpation was evidently not to be thought of, considering the size of the tumor, and the enfeebled condition of the patient. He refused to operate, and advised her to apply ice and salt in an India-rubber bag, adapted to the tumor. She left, and he lost sight of her for several months, when he met her in the street, so much changed in appearance that he did not recognize her. It appeared that she had returned home and made the application of cold as advised, and continued it without intermission. The tumor gradually lost its purple color, and diminished in size; the skin assumed a more natural color, and her general health rapidly improved. He now began the use of compressed sponge, which the patient wore a year, and during this time the breast returned to nearly its former size, and her general health became robust. She became pregnant, and gave birth to a fine, healthy child, and the diseased breast secreted milk.

She has continued well. There is a small, hard movable tumor about midway between the nipple and axilla, which is occasionally the seat of pain; whenever it gives her trouble she immediately resorts to the sponge, and always obtains relief.

Dr. Sayre also related a second case, in which a child, at birth, had a small tumor at the junction of the sacrum and ilium; when eighteen months old this tumor was the size of an orange, and was greatly aggravated by dentition or any constitutional irritation. At such periods it would enlarge—become painful, and of a purple color. Several surgeons were consulted, all of whom agreed in pronouncing it malignant. He treated it with compressed sponge, and was entirely successful. This patient is now twelve years of age, and enjoying robust health.

Ligature of the Carotid Artery for Aneurismal Tumor of the Eye.—Dr. Sayre stated that he had recently ligated the carotid for aneurismal tumor of the eye, in a case where the disease existed from birth. At first there was considerable improvement, but it has again commenced enlarging. He has been considering the propriety of applying a ligature to the other carotid, and also of resorting to injections of perchloride of iron.

Dr. WATSON considered the practice of ligating the carotid in these cases as justifiable; it was first practiced successfully by Dalrymple. He thought all injections dangerous, owing to the mouths of vessels being patulous. In these cases of varicose aneurism, the disease often involves the arteries for a considerable distance, and the most disastrous results sometimes follow operations upon them. He was particularly struck with this fact several years since, while engaged in studying this disease and its treatment.

May 4, 1855.

Luxation of the Humerus complicated with Fracture.—Dr. WATSON related the particulars of a case of luxation of the humerus complicated with fracture. The patient was rather a robust man, past middle age, and had received the injury from a blow on the shoulder from a steam engine. When brought to the hospital he was in a state of great prostration following the blow. On the following morning, being in a proper condition, an examination was made. The arm was found lying close to the side, but its axis inclined an inch or more to the inside of the glenoid cavity; the deltoid was shortened and bellied out; the rotundity of the shoulder was good, but this was due to effusion; on manipulation, a fracture was detected, and the head of the humerus lying in the axilla, making the case one of fracture of the humerus near the head, with dislocation of the head. The treatment adopted was immediate reduction. Ether was administered; and while extension and counter-extension was made, and a sweeping motion given to the arm, drawing it from the body, firm pressure with the fingers was made in the axilla, forcing the head towards the socket, and the bone slipped into its place.

The advice given in works on surgery is to treat these cases as simple fractures, and after the union has taken place reduce the dislocation. Dr. W. believes the best treatment is to reduce the dislocation at once. It can, generally, easily be accomplished, if done rightly. He was struck with the facility with which reduction is effected in a case, where, from rupture of the artery, he had to amputate at the shoulder-joint. On exposing the head of the bone lying in the axilla, it returned to the socket on very slight pressure. He reduced a case, similar to the one narrated, several years since, by simply drawing the arm over the back of a sofa.

Dislocation of Astragulus, and Removal of that Bone.—Dr. DETMOLD mentioned a case of dislocation of the astragulus, in which he removed that bone. The patient fell from a wagon, and caught his foot in the wheel; the injury was treated as a dislocation, extension

being made with pulleys. It was, however, unsuccessful. Suppuration followed, and protrusion of the bone,—which proved to be the astragulus. This bone was in its proper relation with the tibia, and not with the bones of the tarsus. He removed the astragulus, and brought the foot into its proper position. Every thing at first promised well, but suppuration became free, and the foot turned. He called several months after upon the patient, and found the leg had been amputated by another surgeon. In a similar case he would now amputate at once; he has no confidence in the success of exsection of this bone—of the cases in which it has been done, a long and tedious suppuration has followed, ending in an imperfect cure or loss of the limb.

Spina Bifida.—Dr. Holcomb alluded to a case of spina bifida, situated over the sacrum, in which the child had croupy breathing when pressure was made on the tumor. The tumor and fontanelles rise and fall with the breathing; there is no hydrocephalus.

Paracentesis Capitis.—Dr. Detmold stated that he had performed paracentesis capitis about twelve times, twice during the past year, but uniformly without success. In a recent case air was admitted without bad results.

May 18, 1855.

Treatment of Croup with Dover's Powder and Vapor of Hot Water.—Dr. Watson related a case of croup which he had successfully treated with the vapor of hot water, and Dover's powder. The patient was a boy, three years old, who was exposed to cold on the 10th—on the 11th he began to have a croupy cough. He was actively treated by leeching, antimonials, purgatives, calomel in small and repeated doses, etc., but without any improvement of symptoms. Dr. Watson first saw the child on the 14th. The fauces were then very thickly coated with false membrane, and the symptoms of the advanced stage of croup urgent, with the restlessness and jactitation preceding fatal pulmonary congestion. He applied nitrate of silver to the fauces, of the strength of ten grs. to the ʒi of water, but with no particular effect, other than the removal of some of the exudation on the swab. He recommended to continue the calomel, and, in addition, apply cloths wrung out of hot water over the throat, and saturate the air of the room with steam, by means of a tin-kettle heated over a spirit-lamp placed near the child's bed, with the following internal treatment, viz.:—Dover's powder, two grains every three hours. On the following morning he found the patient semi-narcotized, bathed in a free perspiration, breathing freely, and in every respect doing well—treatment continued, with the exception of calomel. In

the evening the symptoms were still more favorable. On the following day he was far better, expectoration very free; treatment continued. On the succeeding day he was still improving rapidly, and, at the time of relating the case, on the 18th, he might be considered about well.

This is the second case which Dr. Watson has successfully treated in this manner, both of which were of the worst form of croup. The opium treatment was first suggested to him by Dr. Ware, of Boston, several years since, who always adopted it. As the antiphlogistic action of opium has now come to be generally acknowledged, he would rank this drug among the most important remedies in croup—it acts as a sedative, diminishes the frequency of the respirations, allays irritability, and induces free perspiration. Croup is cured by the softening, breaking-up, and discharge of the false membrane; and nothing tends more powerfully to this end than the warm vapor inhalations, and the free, copious sweatings produced by opium.

Croup was formerly confounded with other diseases, and hence the various and contradictory opinions held by writers as to its contagious character. Home, of Edinburgh, was the first to name it; Bailey, of New York, first detected the false membrane; Baird, of this city, considered it a typhoid disease. The writer of the article, *Croup*, in the *Dict. des Sci. Med.*, thought the disease contagious; Cheyne, in the *Cyclop. of Pract. Med.*, considers such an opinion nonsense. The truth, probably, is, that they saw different diseases, where croupy symptoms may have appeared, but in which true croup did not exist. Thus we see these symptoms in the eruptive diseases, as scarlet fever, etc. He has seen two cases of this kind where the exudation was abundant. In these instances the contagious property is possessed only by the specific disease.

In regard to the operation of tracheotomy, Dr. Watson would prefer to temporize, and wait for the softening and discharge of the false membrane. He would not positively forbid the operation, but considers it a most disagreeable one to perform.

Dr. Miner has operated four times—of these, two patients recovered and two died; the former were under his care, the latter not. The operation oftentimes mitigates the severe symptoms so decidedly, in cases which subsequently prove fatal, that even, though the case be utterly hopeless, he believes that any expedient is justifiable to palliate the most horrible of all deaths. In a case recently operated upon by Dr. Enos, of Brooklyn, it is found impossible to dispense with the tube without threatened asphyxia. This seems due to a growth from the

mucous membrane of the wound, which the tube presses backwards, and thus leaves the trachea free; but on its removal this growth falls into and obstructs the passage. Caustics have been applied, but without relief.

Dr. KRAKOWITZER has operated eight times—twice successfully; one patient died of a fungous growth, springing from the cicatrix, as in Dr. Enos' case. The tube could not be removed, as it alone permitted free respiration.

Dr. DETMOLD remarked that death from croup was due to different causes, as collapse from impaired respiration, and consequent impaired circulation; pulmonary congestion from the same cause; effusion upon the brain; asphyxia, not from obstructions in the trachea, but from loss of nervous power. It long since occurred to him that, acting upon the theory that death was due, in these cases to impeded respiration from failure of the nervous power, rather than actual obstruction in the air passages, artificial respiration long continued would be the most rational treatment. He intends to follow this practice when an opportunity offers. In this manner the nervous system would be supported until the inflammation subsided.

Dr. BATCHELDER thinks the operation is generally too long delayed. With but one or two exceptions, in his own practice, inflammation has followed the insertion of the tube. Ryland, in his treatise on the *Diseases of the Larynx*, alludes to the fact that inflammation usually follows the operation. To avoid this sequela, Dr. B. has tried heat, by elevating the temperature of the air of the room, with success.

Can there be Fracture of the Cervix Femoris where there is power to flex the limb and carry it across the other?—Dr. MINER related the case of an old lady who, falling upon the hip ten days before, had shortening of the leg of that side three-fourths of an inch, eversion, ability to flex the leg and carry it across the other, but very painful if carried outward,—trochanter in its proper position; crepitus not distinctly made out. He treated it as a fracture, by extension; and brought the limb down to nearly the length of the other. Several days after, he found there was still some shortening. He inquired, if this was a case of a fracture?

Dr. BATCHELDER had a similar case, which puzzled him very much, until the patient informed him that the injured limb was always the shortest.

Dr. DETMOLD thought there was no doubt of its being a fracture.

Dr. WATSON would not be governed by the amount of shortening.

Treatment of Ingrowing Toe-nail.—Dr. DETMOLD alluded to a case

of ingrowing toe-nail, the patient being a pregnant female. He removed half of it, but it grew and became troublesome again, when he removed the whole nail.

Dr. BATCHELDER treats in-growing nails by allowing them first to grow out full length, and then cutting a small gutter a little from the edge, he raises the edge and inserts beneath it a pledget of lint, and retains it until the nail grows. This will take place without creating the former difficulty.

Dr. WATSON treats them in a somewhat similar manner, but not preceding the introduction of lint by cutting a groove in the nail. The edge has no attachment owing to the ulceration existing, and is very brittle.

Dr. MINER recently removed the whole nail, carefully dissecting out the matrix; but it returned, and gave the patient much trouble.

Dr. WATSON stated that he had seen the nail grow from the extremity of the second phalanx after amputation of the first.

Emphysema of Neck.—Dr. WATSON related the particulars of a case of emphysema of the front part of the neck, extending around to the trapezius muscle, and following a contusion of the chest;—no fracture was discovered. He diagnosticated rupture of the trachea as low down as the sternum;—although much injured, the patient recovered. Dr. W. recollected a case of emphysema in which he found a rupture of the trachea as low as the first rib.

Dr. VON ROTH once performed tracheotomy on a girl 6 years of age, the emphysema commencing in the neck, and extending downwards. The patient died, and on examination no rupture of the trachea was discovered. The examination was very brief, and he thought a more careful inspection would have detected a rupture as low as the bifurcation of the trachea.

Necrosis of the Femur, with Lengthening of the Limb.—Dr. POST had lately under observation a case of necrosis of the femur, attended with lengthening of the limb. The disease involved the lower half of the thigh bone of a boy æt. 13; and was of several years existence. The affected limb was, throughout its entire extent, larger than the other limb; and, on measurement, about two and a-half inches longer. This unusual growth of the limb seemed healthy, the whole having the appearance of a leg two or three years older than the other.

Malignant Disease of both Eyes in a child.—Dr. POST also mentioned a case of malignant disease of both eyes in a child 3 years old. In one eye, the growth was as large as the fist; in the other, it was just appearing through the cornea, deep in the eye. He could not explain

the fact that both eyes became involved in a malignant disease, unless it was through the medium of the optic chiasm.

Malignant Tumor with marked fluctuation.—Dr. Watson had recently a case of malignant disease, situated in the calf of the leg, attended with no pain or fever; pulse 140; but the fluctuation was very distinct, and had led to the supposition that it contained matter.

Dr. Post recollected a case of cancer, which came under his charge at the N. Y. Hospital several years since, the growth being situated upon the scapula. The sense of fluctuation was very distinct, and so deceptive that eminent surgeons, who saw the patient, were deceived as to its real nature. It grew rapidly also, within the space of two or three weeks, and was attended with considerable pain. As the swelling affected both surfaces of the scapula, the superficial and deep seated, he was led to conclude that it was not an abscess, but malignant disease. He was prevailed upon to make an exploratory puncture much to the aggravation of the disease. The patient soon after died, from the rapid progress of the growth.

Dr. Detmold had a case of tumor behind the ear, which grew rapidly with heat and pain and marked fluctuation. He thought it might be a scrofulous abscess; he explored the tumor, but it proved to be cancerous. No harm seemed to come from the operation.

Dr. Batchelder thinks that fluid in a tumor can almost always be discriminated, if the examination is properly made. If there is no fluid in the soft tumor, the fingers will rise when pressure is made; but if there is fluid, a wave can be felt to pass under the fingers.

Cancerous Testicle in a boy.—Dr. Post removed a cancerous testicle recently from a boy æt. 6, which creaked under the scalpel. It was large, oval, three by four inches in diameter. Cancer has since been developed in the abdomen.

An anomalous Tumor from the Rectum.—Dr. Detmold presented a small tumor which a child 3 or 4 years old, suffering from prolapsus ani following dysentery, had torn off from the protruded bowel. It was the size of the first phalanx of the thumb,—solid, homogeneous. On passing the finger into the rectum, a small depression was readily detected, about an inch above the sphincter, containing coagula, and from which the tumor was removed. Various opinions were expressed as to its nature, but no definite conclusion arrived at.

Local Chorea affecting the Face.—Dr. Detmold has a patient, a man, who has been troubled for several months with twitchings of one side of the face. Believing it a species of local chorea, he had thought of dividing the muscles affected, subcutaneously, but lately the patient's

memory has begun to fail, and he apprehends some grave disease of the brain. He is in doubt whether the disease originated in the brain, or is allied to general chorea. He had been treated with iron.

Dr. KILBOURNE stated that he knew a policeman, subject to epilepsy, who had similar twitchings of the face, from which he recovered.

Dr. POST was once called to a young man who had all the symptoms of chorea, apparently induced by eating nutmegs. He ate about a dozen.

Malignant Pustule.—Dr. WATSON related a case of malignant pustule which came under his observation since the last meeting. The patient was a young man, of good general health, residing in Brooklyn. A member of the family died a year ago from a similar disease, commencing as a small vesicle on the under lip, and running a rapidly fatal course. On visiting his patient he found him sitting up, appearing cheerful and not at all indisposed. A small blister, like eczema, was noticed on the chin, with some redness around it. The only suspicious symptom in his case was a quick pulse. He made a favorable prognosis. He heard, several days after, that the boy sunk rapidly and died. He thought these cases were malignant pustules, having none of the characteristics of carbuncle.

Dr. POST thought the disease carbuncle, modified by its situation.

BELLEVUE HOSPITAL.

History and Early Organization.—BELLEVUE HOSPITAL is one of the oldest and most important medical institutions of New York City. When first established, nearly half a century since, it was a part of the Alms-house Department, and had no separate or individual existence. This department included the penitentiary, the work-house, the lunatic asylum, etc., and the hospital department was devoted to the care of the sick from these different establishments. The medical officers consisted of two or more medical students with an attending physician and surgeon.

This organization remained until 1825, when typhus fever broke out in the alms-house and prevailed to an alarming extent—patient and physician alike fell victims to its virulence. The city authorities became alarmed, and appointed a committee of medical men to investigate the sources of this frightful epidemic.* It was found, as usual, in deficient ventilation, and the want of proper attention to hospital hygene.

* This Committee consisted of Drs. ISAAC WOOD and JOSEPH M. SMITH.

The result of this examination into the condition of the alms-house was the appointment, in 1826, of a resident physician. This office was continued for twenty years, and during that period the medical police of the department underwent no further important change.

The Common Council of New York, which then had supervision of the Alms-house department, impressed with the necessity of a change in the organization of the medical department of the Alms-house, referred the matter to the proper committee for its consideration. This committee called to its aid several of the most distinguished medical gentlemen of the city,* who drew up a report, and submitted a "Plan for the better Organization of the Hospital Department of the Alms-house," etc. This plan contemplated a division of the Alms-house into two distinct and independent sections; the first consisting of Bellevue Hospital; the second, Blackwell's Island Hospital, including the Lunatic Asylum, etc. The medical organization of Bellevue was to be farther modified by the appointment of the following medical officers, viz.:—a resident physician, six visiting physicians, six visiting surgeons, and eight assistant resident physicians. The plan of this committee was adopted, and Bellevue Hospital became an individual and independent medical institution. The advantages of this change were soon apparent in the better discipline of the establishment, both in its medical and economic arrangements, and especially in its reduced mortality.

Present Organization.—In 1849 the medical organization of the hospital was still farther modified by the Board of Governors of the Alms-house, under whose supervision this department had been placed. The office of resident physician was abolished, and that of warden substituted. This latter officer is not a medical man. No farther changes have been made in the medical police of this institution. For the last six years, its present system has worked admirably and efficiently—its wards have been constantly filled, and the results of treatment, as exhibited in the ratio of mortality, compares most favorably with that of other hospitals. The following table exhibits at a glance the mortality in this institution during its transition from an alms-house to a well-regulated hospital:—

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* The following gentlemen composed that committee:—Drs. John W. Francis, Joseph M. Smith, Valentine Mott, James R. Manley, F. C. Stewart, W. Parker, S. R. Harris, James R. Wood, G. S. Bedford, Benj. Drake.

Mortality for	20	years prior to	1847	(average)	20	per cent.
"	"	the year	1847	"	17	"
"	"	"	1848	"	16	"
"	"	"	1849	"	13	"
"	"	"	1850	"	10	"
"	"	"	1851	"	$9\frac{1}{3}$	"
"	"	"	1852	"	$11\frac{1}{3}$*	"
"	"	"	1853	"	$9\frac{1}{3}$	"
"	"	"	1854	"	$10\frac{1}{2}$*	"
"	"	"	1855	"	$10\frac{1}{3}$	"

Through the liberality of the Board of Governors, the internal arrangements of the hospital have been gradually perfected, so that it is now, in many respects, a model institution. During the last year a new wing† has been added to the old building, four stories high, fifty by one hundred and fifty feet in dimensions, which will accommodate upwards of three hundred patients. The old building is to be enlarged during the present year, by the addition of a new story at an expense of $85,000. This addition will increase the capacity of the hospital to twice its present size, and allow the easy accommodation of 1,200 patients, and also introduce into the entire establishment all the modern improvements in hospital architecture. A new dead-house is now in process of erection, two stories in hight, which will have an ample lecture-room, and all the conveniences for a museum.

When these improvements are completed, this hospital will stand unrivaled in the perfection of its internal arrangements. It will then accommodate upwards of 1,200 patients. Its wards will be spacious and well arranged in all the details of ventilation, heating, etc.; it will have an ample theatre for the purposes of clinical instruction, and all the appliances necessary for the successful treatment of medical and surgical diseases.

An important feature in this hospital is its lying-in-wards. These accommodate on an average about two hundred patients annually, and afford to resident physicians an ample opportunity to study this branch of practice.

Clinical Advantages.—Within the last few years Bellevue Hospital has become a resort for medical students in the pursuit of clinical instruction. During the past winter there have frequently been upwards of two

* Cholera prevailed.

† This building was opened for the reception of patients on the 23rd of April, on which occasion an appropriate address was delivered by Dr. JOHN W. FRANCIS, President of the Medical Board.

hundred and fifty students in attendance in a single day. The location of all the medical colleges in its immediate vicinity, the free access of medical men to the wards, the care taken by the physicians and surgeons, both attending and resident, to facilitate the investigation of disease and morbid anatomy, render this hospital, at once the most central and most popular institution in the city. If we add to these advantages the infinite variety of diseases to be observed among its thousand patients, we are justified in stating that it is unsurpassed in clinical advantages by any hospital in this or any other country.

The House Service.—The following extract from the Annual Report of the Medical Board for 1850 will give a correct idea of the arrangements of the medical service of the hospital:—

"The service of the house is performed by the Medical Board and the House Staff. The first is at present composed of six physicians and six surgeons, two consulting physicians and two consulting surgeons. Two physicians and two surgeons are on duty at once, for a period of two months, twice in the year. During this time they visit the hospital daily, and prescribe and direct the treatment of all the patients. In addition to their regular daily visit, they can be sent for, if needed, at any hour of the day or night. The House Staff consists of four house physicians and two house surgeons, who visit the ward in company with the attending physician, inform him of the condition of patients during his absence, and receive and carry out his directions in regard to them. In addition to this, they visit the wards regularly morning and evening, and as much oftener as the necessities of any of the patients require, being always ready at a moment's warning. Each of these officers has a senior assistant, like him residing in the hospital, whose duty it is to record cases, etc., and to supply his place, when necessarily absent. To these are added the same number of junior assistants, who do not reside in the house, but stand ready, in case of any vacancy, to fill the place of a senior assistant. Of these three classes, the two first are required to be graduates in medicine, and the last must be in the last year of their pupilage. Previous to their appointment as juniors, they undergo a rigid examination before a committee of the Medical Board, and again before promotion to the two upper grades. These situations being much sought for by medical students and recent graduates, the Board generally have it in their power to select the best qualified among them for appointment."

The opportunity thus offered for graduates to enter the hospital and obtain the advantages of clinical practice, is worthy the attention of preceptor and pupil. The full hospital course is eighteen months,

divided as follows:—six months junior, non-resident; six months senior, resident; and six months house physician or surgeon. Examinations to fill the vacancies thus occurring, every six months, are held in the spring and autumn. The resident House Staff, when complete, consists of twelve medical gentlemen, all of whom are graduates.

The following gentlemen comprise the present Medical Board:—

Consulting Physicians.—Drs. John W. Francis, President of the Medical Board, and Isaac Wood.

Consulting Surgeons.—Drs. Valentine Mott, and Alexander H. Stevens.

Physicians.—Drs. A. Clark, John T, Metcalfe, Benjamin W. McCready, Isaac E. Taylor, George T. Elliott, B. Fordyce Barker.

Surgeons.—Drs. James R. Wood, Willard Parker, Chas. D. Smith, John J. Crane, Lewis A. Sayre, John A. Lidell, Stephen Smith.

SURGICAL PRACTICE OF BELLEVUE HOSPITAL.

SERVICE OF DR. JAMES R. WOOD.

(*Reported by* DR. GEO. AMERMAN, *House Surgeon.*)

Aneurism of the Femoral Artery—Ligature of the External Iliac—Secondary Hæmorrhage on the eighteenth day—Recovery.—Samuel O'D., aged 22; born in New York; by occupation a butcher. No hereditary tendency to disease traceable. He has always enjoyed good health. On the 6th of October, 1855, he was shot with a pistol. The ball entered the fleshy part of the left thigh, at the junction of the middle with the upper third, on the outer aspect of the limb, and made its exit on the inner side, at a point somewhat above its entrance. Very little hæmorrhage followed the injury, but the limb became painful and swollen. The pain was of a sharp lancinating character, first felt below the knee and extending down the leg to the foot and great toe. In the great toe the pain was most severe; it lasted about twenty-four hours, and then gradually disappeared; since which time he has had no pain in any part of the limb. The swelling continued four or five days. Antiphlogistic means were resorted to, for the purpose of subduing the inflammation, and cold water dressings applied to the part. He suffered very little constitutional disturbance, and two weeks after receiving the injury was able to walk about the yard. On the fourth or fifth day after he began to take exercise, he observed for the first time, a small, round, soft, and compressible tumor, situated on the anterior aspect of the thigh, in the inferior part of Scarpa's space. Pulsation of this tumor was distinctly perceptible to

both the sense of touch and sight, particularly the former. This pulsation was felt in every part of the tumor, from the commencement. For the first nine days it grew rapidly, subsequently its growth became much slower. He has never suffered any pain, numbness, or swelling, in the limb since he first observed it. There was no discoloration of the integument, no increase or diminution in temperature. Five weeks after he first noticed it, Dec. 7th, 1855, he was admitted into Bellevue Hospital, under charge of Dr. Jas. R. Wood.

At the time of his admission his general health was good. The tumor was situated on its anterior aspect at the junction of the middle with the upper third of the thigh. It was five and a-half inches in its longitudinal, and six inches in its transverse diameter. An equable pulsation was felt in every part of its surface, synchronous with the arterial pulse. Pressure on the cardiac side caused a diminution in size, and total disappearance of the pulsation. Pressure on the distal side caused an increase in size. A "bruit de souflet" distinctly audible in every part of it,—no *thrill.*

Diagnosis.—Femoral Aneurism.

Treatment.—Ligation of external iliac artery. The artery was tied above Poupart's ligament, in consequence of the large size of the tumor, and also the inflammatory exudation that had taken place about it, and consolidated the parts.

On the 8th day of December, the operation was performed by Dr. Wood, in the presence of several eminent surgeons of this city, and a large class of students. No anæsthetic was given, as it was thought the vomiting and retching which so often follow their use might be injurious, by causing too great an amount of pressure on the abdominal viscera.

The patient was placed upon the operating table, with his thigh slightly flexed. The external incision commenced over the external abdominal ring, one half inch above, and was carried along the course of Poupart's ligament in a semi-circular direction, with its convexity downwards, and terminating one inch above and within the anterior superior spinous process of the ilium. The abdominal layers were next divided; the transversalis fascia reached, and the finger passed into the internal ring; the fascia was then detached from the peritoneum; the separation began at the internal opening, where it was least adherent, and with the finger for a director, the remainder was divided. The peritoneum was then pushed aside, and held out of the way by an assistant with spatulæ; this brought the vessel in full view; the sheath was opened with the nail of the index finger, and the anuerism needle

passed from within and between the vein and artery. Very little hæmorrhage occurred during the operation, and only three small vessels were tied;—the edges of the wound were brought in apposition, and five interrupted sutures used to retain them in situ; next adhesive strips were applied, then a slight compress, and lastly, a single spica bandage. The patient was placed in bed, his limbs thickly enveloped in cotton, and strict quiet enjoined,—one grain of morphine given to procure sleep.

December 9.—Feels well; no pain or fever; pulse 100; no pulsation in posterior tibial artery.

December 10.—Pulse 140; complains of a slight cough, which causes considerable pain in the wound; the temperature of the limb is less than its fellow; the tumor is greatly diminished in size, and much harder; appetite good.

December 11.—Doing well; pulse, 104; slept well last night, after taking pulv. Doverii, ℈ii.; cough improved.

Dressings removed by Dr. Woodward, and the wound found covered by concrete healthy pus and blood. Slight erythema about the edges; ordered lotio plumbi et opii.

December 12.—Pulse, 90; cough still improving; no appreciable difference in the temperature of the two extremities. Dr. Wood removed all the dressings from the wound, and found it healthy, and entirely united by first intention, except around the ligatures—one of the ligatures was removed. The wound was re-dressed with adhesive strips—lead and opium wash discontinued.

December 13.—Doing well; pulse, 90.

December 15.—Pulse, 82; cough entirely disappeared. All the ligatures came away except the one on the external iliac. Pulsation in post. tibial felt for the first time since the operation.

December 16, 17, 18, and 19.—Nothing worthy of note occurred. The wound was dressed daily with adhesive strips and light dressings.

December 20.—Bowels moved twice freely, for the first time since the operation—appetite good.

December 21.—Pulse, 82. Dr. Wood visited the patient, and finding the ligature of external iliac lying loose in the wound, removed it.

December 26.—Since the last note the patient has been doing extremely well, not a single untoward symptom having presented itself. The wound had entirely closed, except a small opening where the ligature had been placed; it had been dressed daily, and nothing unusual had occurred to attract attention to the case. At 2 o'clock, P.M., he was seen by Dr. Wood. At 3 o'clock I saw him, and he was doing

well. At 4 o'clock Dr. Hitchcock, one of the House Staff, was hurriedly summoned to see him. He found him bleeding profusely. The blood "welled" up from the wound, and so rapidly, that he thought he must have already lost from two to three pints. (The time from the occurrence of the hæmorrhage until Dr. H. saw the patient, could not have been more than two minutes.) Dr. H. immediately compressed the artery and controlled the hæmorrhage. Dr. Wood was sent for, and, after seeing the case, decided to keep up the pressure during the night, and call a consultation of the Visiting Staff the next day at 10 o'clock, A.M. Pressure was kept up, by the hand placed over the artery, without any difficulty, or inconvenience to the patient. His pulse remained good, 100, and full—one grain of morphine given to procure sleep.

December 27.—Pulse, 100; slept the greater part of last night. A consultation was held at 10½ o'clock, A.M., and it was decided to keep up steady pressure with the hand over the artery until a compress and bandage could be safely applied.

December 28.—Doing well; pulse, 100; sleeps well; wound discharging some pus; continue pressure.

January 5.—Since the last note, patient has been doing extremely well; not a single untoward symptom; pressure has been kept up night and day. The wound has nearly united. Pulsation in external iliac entirely disappeared.

January 7.—Same as at last note. Pressure discontinued, and four pounds of shot, with a graduated compress and double spica bandage substituted.

January 15.—Doing well. Two pounds and nine ounces of shot removed; the remainder, with a compress and bandage, applied as before.

January 21.—All the shot removed. Compress and bandage re-applied.

February 11.—Sixty-fifth day after the operation and forty-seventh after the hæmorrhage; patient in good health; he wears a truss over the cicatrix of the wound. The limb is normal in size, temperature, and sensibility. Its nutrition is good. The original tumor has nearly disappeared; it is scarcely perceptible to the sight, but is quite easily felt beneath the skin. The epigastric artery is felt pulsating above the wound. The femoral entirely obliterated; the other arteries in the upper part of the thigh enlarged; the anastomatica magna distinctly felt, and its pulsations are communicated to the remains of the tumor. Patient, discharged cured.

The interesting facts in the above case may be summed up as follows:—The pulsation in the posterior tibial artery was absent until the seventh day after the operation.

On the thirteenth, the ligature from the external iliac was removed.

On the eighteenth, secondary hæmorrhage supervened; five days after the ligature came away.

Pressure by the hand was kept up twelve days, from the eighteenth to the thirtieth day, after the operation. The shot, bandage, and compress were then substituted.

On the twenty-eighth day after the operation, and tenth after the hæmorrhage, pulsation of the external iliac artery entirely disappeared. On the thirty-eighth, part of the shot were removed, the remainder with a compress and bandage applied as before.

On the sixty-fifth day after the operation, and forty-seventh after the hæmorrhage, all the dressings were removed and the patient discharged cured.

The following collection of cases exhibits the dangers of secondary hæmorrhage, complicating ligature of the external iliac:—

Cases of Secondary Hæmorrhage after Ligature of the External Iliac:—

Operator.	Ligature separated.	Date of Hæm.	Treatment.	Result.
Abernethy.	----	5th day.	----	Died.
Mouland.	24th day.	----	----	Cured.
Dupuytren.	16th day.	24th day.	Pressure.	Cured.
Todd.	21st day.	24th day.	Lig. reapplied.	Died.
B. Cooper.	----	19th day.	----	Died.
Hewson.	29th day.	6th day.	Pressure.	Cured.
Lallemand.	----	5th day.	----	Died.
Baroni.	19th day.	40th day.	Laid open tumor.	Died.
Power.	----	5th day.	----	Died.
A. Cooper.	----	17th day.	----	Died.
Adams.	28th day.	18th day.	Pressure.	Died.
Smith.	7th day.	----	Pressure.	Died.
Ogden.	----	8th day.	----	Died.
Wood.	13th day.	18th day.	Pressure.	Cured.

Summary.—Number of Cases, 14; recovered, 4; died, 10.

Sloughing Ulcer of Leg, with Caries of Tibia—Amputation of Thigh—Necrosis of Femur following the operation, with spontaneous separation of dead bone.—James Welsh, laborer, aged 30; born in Ireland; admitted into Bellevue Hospital November 13, 1855; father died of cholera, mother of fever. When 10 years old he injured his right ankle by jumping over a high wall. It was followed by severe pain and swelling, which continued one week. The treatment consisted principally of poultices. At the end of this time a swelling appeared upon the internal malleolus, which suppurated and opened spontaneously. Two months after, a piece of bone, three inches in length, came out. Four months after, an opening formed over the external malleolus, from which a small piece of bone was also discharged. Both openings healed in one year, and he recovered free use of the joint. He was healthy from this time up to 1845, when he contracted syphilis. He came to this country in 1849. In November 1854 he fell and scraped the skin off the anterior part of the right tibia, about its middle. The sore made by the injury refused to heal, and he was admitted into Bellevue Hospital in January, 1855. In May he was discharged cured. After leaving the hospital he became very intemperate, and the sore broke out again. In November 1855, he was re-admitted with a large sloughing ulcer on the right leg, and necrosis of the right tibia. On the 8th of December it was deemed advisable to amputate the limb at the middle of the thigh. Dr. Jas. R. Wood performed the operation, making an anterior and posterior flap. He lost very little blood, and rallied well after the operation. A large anodyne was given at night, to procure sleep.

December 9.—Pulse 120, and irritable; tongue dry and slightly furred; complains of great pain in the stump, which looks erysipelatous; considerable discharge of unhealthy and offensive pus; ordered brandy to be given freely, good diet, anodynes at night, and cold bath dressings applied over the part.

December 10.—No better; the sutures and part of the flaps are in a sloughing condition; dressed with a solution of chloride of soda, and stimulation carried to its highest point.

December 11.—Part of the flaps have sloughed; the end of the bone projects half an inch; stimulants and anodynes freely given.

December 12.—The sloughing had discontinued; the parts more healthy, but the end of the projecting bone was denuded of periosteum, and carious.

From this time until the 15th of February the disease in the bone

slowly progressed. It was readily traced upward with the probe, and its progress accurately ascertained. The soft parts slowly granulated, and contracted about the dead portion. At no time would the strength of the patient admit of re-amputation. He was given tonics, stimulants, anodynes and good diet. On the 15th of February, the necrosed bone spontaneously separated itself from the healthy part and a piece four inches in length came away, leaving the endosteum and periosteum intact. A probe could now be passed up between the endosteum and periosteum, or within the endosteum. Each of these membranes formed a hollow cylinder, that formed by the endosteum being placed within the other.

Dislocation of Head of Femur into Ischiatic Notch, Reduced by Reid's Method.—Patrick Galligan, aged 28; born in Ireland; was admitted into Bellevue Hospital on Saturday the 23rd of February, 1856. He was a healthy, robust man, with unusual muscular development. About two hours previous to his admission, he fell from a scaffold thirty feet in hight; and injured his right hip. Upon examination the limb was found two inches shorter than the other. The knee was in advance of its fellow, and the ball of the great toe rested upon the instep of the opposite foot. The trochanter approximated the dorsum of the ilium, and was nearer the anterior superior spinous process than natural. The nates was flattened and enlarged. Upon making extension, the leg could be drawn down to its normal length; and during extension rotation gave a crepitus very much resembling an osseous one. As soon as traction ceased, the shortening again returned. When the limbs were placed parallel, abduction was impossible. The obscurity of the case rendered it absolutely necessary to etherize the patient, before any conclusion as to its nature was arrived at. As soon as he was perfectly under the influence of the anæsthetic, it was diagnosticated as a dislocation into the ischiatic notch. Dr. Wood, with the assistance of Drs. Parker, Sayre, and others, proceeded to reduce it by Reid's method. Reduction was easily accomplished. The head of the bone was plainly felt as it was dislodged from its position, and also its curved motion on the dorsum of the ilium. It produced a sound distinctly audible ten feet from the patient, when it slipped into the acetabulum. The next day (25th) the patient was discharged cured.

This is the third case of dislocation of femur which Dr. Wood has reduced by manipulation alone.

PART SECOND.

CRITICAL ANALYSIS.

ART. IX.—*The Obstetric Memoirs and Contributions of* JAMES Y. SIMPSON, M.D., F.R.S.E., Professor of Midwifery in the University of Edinburgh. Edited by W. C. PRIESTLY, M.D, Edin., and HORATIO R. STORER, M.D., Boston. Vol. i. Philadelphia: J. B. Lippincott & Co., 1855, royal 8vo., pp 756.

THAT some physicians write *for* practice, and some *from* practice, is as true as that the great majority of medical authors belong to the former class.

With the latter, the name of Dr. Simpson is identified. His immense practice serves as a crucible to purify medical truths and discoveries; while, from his commanding position, the result is immediately proclaimed to the profession.

There is no niggard withholding of the process; every step, with all its attending doubts and uncertainties, is placed before the world, and the whole is subjected to the severest logical and mathematical test; and where an error has crept into the calculation it is probable that Simpson, himself, will be the first to hasten to proclaim it to the world.

The work before us teems with valuable truths, which shed a flood of light on some of the most obscure diseases which medical men are called on to grapple with; and may be pronounced, unhesitatingly, to be absolutely necessary to the physician desirous of doing his duty to the class of diseases wherein malapraxis and empiricism are most rife.

When one reflects on the prodigious labor and talent necessary to create, test, and publish the mass of original matter contained in this volume, with all the harassing responsibility and toil attending the daily duties of a physician and professor, in whose house ninety patients have been counted in one day—when one superadds to such consideration the fact that the volume in question does not contain those publications which have placed Dr. Simpson pre-eminent as a controversial writer in medicine, and as an antiquarian—and, that all these results come from the unwearied industry of a man not *forty-four* years of age—we are prepared to appreciate this towering intellect.

Those who, like the writer, had the good fortune to possess most of these valuable papers, before their collection in the present form, can well appreciate the boon to the profession which this work will prove; and, though every remedial measure therein contained should be shortly superseded by others more efficient, yet the volume itself would serve as a monument of the extraordinary grasp and concentration of thought of its author.

Drs. Priestly and Storer may well be envied the gratification of bringing together these scattered papers, under the immediate revision of Dr. Simpson, and in the enjoyment of his companionship; and we trust that Vol. i. may not be long without its mate.

Their duty consisted in presenting in this form all Dr. Simpson's obstetric writings up to April, 1855, from which one unimportant article alone has been excepted; and they have increased the value of the book to the man engaged in practice, by classifying them according to the subject; while foot notes have been added where reference might be facilitated, or where later observations, by Dr. Simpson, have increased his knowledge of the subject.

The volume is thus naturally divided:—

PART I.—Special pathology of the unimpregnated female.

PART II.—Physiology and pathology of pregnancy.

PART III.—Natural and morbid parturition.

The chief characteristics of all the papers are the skill, research, and originality applied to the discovery of new methods for treating the diseases therein alluded to; or the battery of facts and arguments placed around a principle unrecognized, or wrongfully regarded by the profession.

The manner in which the same resources are directed to the demolition of views of practice, based on mistaken statistical deductions, might be found in the controversy with Dr. Collins or Dr. Henderson, though the former appears shorn of its details, and the latter is of necessity omitted.

Indeed, we sincerely hope that the analysis of Dr. Collin's Report on the Dublin Lying-in Hospital will be extensively read; showing, as it does, the unsound rules of practice deduced by Dr. C. from statistics, (so laboriously and faithfully collected), through a fundamental error in his calculations.

Part I. opens with a Lecture Introductory "to an unpublished series on Uterine Diagnosis," which sums up the value of the Rational or Dynamic, and Physical symptoms.

The classification of the means of physical diagnosis shows that four

out of nine owe their discovery to Dr. Simpson, viz.: the uterine sound, sponge tents, exploring needles, and the application of anæsthesia.

The first-mentioned instrument has a large space devoted to its history and uses. The latter may be thus stated:—

"Physical examination as hitherto practiced seldom enables us to ascertain accurately the organic condition of more than the cervix and lower part of the body of the uterus.

It is possible by the uterine sound or bougie, introduced into the uterine cavity, to ascertain the exact position and direction of the body and fundus of the organ—to bring those higher parts of the uterus, in most instances, within the reach of tactile examination, and to ascertain various important circumstances regarding the os, cavity, lining, membrane, and walls of the viscus."

All of which propositions are conclusively established, and corroborated by the general experience of the profession. Perhaps its value can be nowhere better shown than in its application to retroversion; and the writer can never forget the first time that Dr. Simpson allowed him to examine its action in the reposition of a retroverted uterus, which had been diagnosed as a stricture of the rectum, and perseveringly bougied per anum.

Of all the instruments contrived by Dr. Simpson, we believe that the uterine sound will be the most enduring and the most useful.

The sponge tent is but a step forward in the same direction; and, while the principle can never be disregarded, it is probable that other tents may be prepared equally effectual, and less liable to produce irritation, or the unspeakably fœtid discharge which attends their use.

The elm, recently recommended, (by Dr. Storer, we believe), appears to possess some of these qualities.

Case X. in the paper on the "Detection and Treatment of Intra-Uterine Polypi" is a model case for the novel application of these instruments to the detection "of two or three small slender polypoid bodies hanging from the very fundus of the uterus." Without this treatment the patient's case would, in all probability, have been a hopeless one; since, otherwise, their ablation was impossible; and, even as it was, a summer in the country did not remove the anæmia, consequent upon the flooding which these tumors had occasioned.

A remarkable treatment of a remarkable fibrous tumor is detailed in a separate paper, where by means of the "caustic potass (a caustic very much used by Dr. S. in indurations of the cervix), an opening was made in the most prominent part of the tumor, about one inch behind the os uteri," when the tumor could be separated from its ute-

rine envelope with great ease by the fingers. The artificial opening enlarged like the os uteri in labor, and the tumor protruded. Finally, with the aid of chloroform, the mass was enucleated by the hand, and removed—when it was found to weigh three pounds and eight ounces.

Dilation and incision of the cervix uteri in dysmenorrhœa; the injection of iodine in ovarian cysts; tapping in ovarian dropsy; the great question of ovariotomy, are among the surgical questions considered in this part of the work; while amputation of the cervix, with the reasons for its justification and its results, receives appropriate attention.

In alluding to cauliflower excrescence, Dr. S. speaks of it as "a disease which always takes on malignant action, whatever difference of opinion may exist as to its pathological nature, in the incipient stages."

The writer had the opportunity in Edinburgh of witnessing the performance of the last named operation twice, and in both instances, for cauliflower excrescence, and the point in the operation which struck him the most forcibly was the extent to which the uterus could be drawn down by the strong vulsella introduced into the healthy tissue above the disease. The patient being in both instances profoundly anæsthetized. There can be no better physiological illustration of the extent to which the uterus can be temporarily displaced; a point made elsewhere in this volume in reference to the uses of the uterine sound.

Among the various topics considered in Part I., the numerous articles devoted to the consideration of the special uses of medicines, are not the least interesting; and in the details of the use of iodine, medicated pessaries, chloride of zinc, potassa fusa, gallic acid, furfurine, the sulphate of nickel, the salts of cerium, etc., etc., we recognize the restless research which prompted the trial of agent after agent in the many experiments which lead to the selection of chloroform as an anæsthetic. Part I. contains, moreover, the description of means employed by Dr. Simpson, to rectify mal-positions of the uterus, with drawings of the instruments devised by Dr. Simpson, and which have occasioned so much discussion.

We can personally endorse the statement of the editors, that we have seen patients under the care of Dr. Simpson, wretched invalids for years, "and from their employment, enjoying comparative health and comfort." We have also seen "such irritation produced as to necessitate the withdrawal of the instrument." While, however, instruments producing such favorable results in such competent hands, may be shown to be dangerous, and, therefore, inexpedient;

yet the position and experience of the inventor, demand that they should receive dispassionate consideration.

This part concludes with the interesting paper on the "alleged infecundity of females born co-twins with males."

Part II. contains only five papers, and but one of any length, viz.: on the "duration of human pregnancy;" in the course of which it is stated, that, in the absence of all "reason why the period of pregnancy should be thus stable and invariable," while all other periodic processes in the human body are known to vary extremely, it would be against all analogy "to suppose that such variations did not occur in regard to the function of gestation.

Two of the remaining papers relate to the treatment of hæmorrhage in abortion, and the vomiting of pregnancy; while a third formulates theories for the influence of the death of the fœtus on its retention or expulsion; and the last exposes the risk of relying implicitly on the areola as a sign of pregnancy.

Part III. contains the substance of the best laws for the management of difficult cases of labor, threatening or demanding operative interference, that have fallen under our observation in any work published in Great Britain.

We sincerely trust that the precepts and example of Simpson, Rigby, and Radford, may counteract the influence of such rules for resort to the forceps and turning, as are given by Osborn, Collins, and Robert Lee.

The article on "Turning, as a substitute for Craniotomy and the Long Forceps," though written like the rest, in moments of respite from other engagements, demands the careful study of every man who gives attention to difficult cases of labor.

The rules for the operation of turning, contained in the article on "Transverse Presentations," are admirably clear, and reliable in practice; as, according to our experience, are the views relating to the mechanism of pelvic presentations, and those in the articles on the "Mechanism of Labor," and the "Irregularities of Head Presentations."

While residing in the Lying-in Asylum of this city we had many opportunities of noticing that movement of the occiput, from its original presentation at the right sacro-iliac synchondrosis to the right foramen ovale; and the remarks of Dr. Simpson on the incongruity between the observations of Boivin and La Chapelle, and those of Noegelé, appear to us very satisfactory.

"*The observations of Noegelé were, we believe, made by himself in*

most of, if not in all, the cases to which he refers; most of those of La Chapelle and Boivin, by females attached to the Maternité Hospital of Paris. The observations at the Hospital were collected without there having been previously strongly pointed out a great source of fallacy in confounding the second and third positions, and those of Noegelé, with a perfect knowledge of, and a view to, this fallacy."

In this connection we may glance at the allusions to two well-known New Yorkers as very palpable hits, though made with such grace and skill as will, we doubt not, command the admiration of the wounded. The chapter on spontaneous evolution contains some pithy suggestions of importance.

In reference to the "Cephalic" evolution, the writer may be permitted to say that he had a case in the N. Y. Lying-in Asylum, where the second child of twins presented the right shoulder distinctly at the brim, and was delivered head first by natural uterine contraction alone.

M. H., aged 27, second confinement, May 19th, 1853, delivered of twins, girl and boy, thus: 4 A.M.—Os partially dilated; membranes unruptured; small amount of liquor amnii; breech of female child presenting; sacrum to the left foramen ovale; summum of intensity of fœtal heart to right side of mother. 8 A.M.—During my absence from the ward, a living female child was sent clear into the world, breech foremost; I arrived immediately, separated cord, and found a second presenting right elbow, with head in right iliac fossa; fœtal heart beating; sent for Dr. Beadle, in accordance with by-laws, and presently a tremendous pain dislodged the head—and previously forcing down the right elbow, the two together traversed the straits with unruptured membranes, and were wholly expelled, bringing part of the placenta external to the vulva; child alive; placenta single; under microscope, no fatty or other degeneration; first weighed $7\frac{1}{2}$ pounds; second weighed $4\frac{3}{4}$ pounds; placenta, $1\frac{3}{4}$ pounds.

That Dr. Simpson, who is always devising something new, should have invented a pair of forceps, is not surprising; for few men in high obstetric position may not confess to that weakness, as though the numberless modifications of the Chamberlen's instrument had not already supplied us with all that is necessary in the way of modification; but he has also modified Noegelé's perforator, and shown decided originality in the invention of his "Air Tractor."

In using Dr. Simpson's forceps, to deliver when the head was in the superior strait, we found that the breadth between the points of the blades and the looseness of the lock, offered disadvantages in the

necessary traction, that more than counterbalanced the benefits of the transverse rests. We found that the head of the child could not be so securely held as with forceps that could be firmly screwed together, and with blades approaching more closely at the extremities; and we remember that in a case at the Edinburgh Maternity Hospital, where Drs. Simpson, Weir, Duncan, and Mathew delivered in deformity of the brim, that the forceps slipped more than once in the traction, though in that instance the slipping may readily have occurred just when the sagittal suture changed its direction from the transverse to the oblique diameter.

The instrument which we employed was, however, made by Weiss, of London, and not in Edinburgh; though there is but the difference of one tenth of an inch at the point referred to.

We have twice used the air tractor, but found that the difficulties of its introduction and application, with the annoyance of having it slip with a loud suction noise just when strong traction was fairly commenced, have decided us to give the preference, in future cases, to the forceps.

In one of the cases, where the head was in the position where the forceps could be applied, in the words of Dr. Collins, "by any practitioner of moderate experience," we completed the delivery after more than one application, but with more difficulty and bother than the forceps would have demanded; while in the other, forceps terminated the labor.

Dr. Simpson brings, as usual, a mass of the most ingenious reasoning and illustration to the support of what seems his pet obstetric instrument, and points to very successful applications; while a foot note appends the substance of the testimony in its favor, of an anonymous practitioner in England.

That the instrument is capable of maintaining a pressure of over 70 lbs. when satisfactorily applied to a ball attached to a spring balance, we are convinced from personal observation; which has also convinced us that, in its present state, it cannot compete in advantages with the forceps.

The very sound remarks of our author, on the Cæsarean section, derive additional interest from the caution in prognosis demanded.

We refer to the Cupar case, which so gratified Dr. Lee, where, in a case selected for the section by Dr. S., a putrid fœtus passed unaided, which was capable of subsequently being drawn through an opening $2\frac{3}{8}$ inches in its largest, by $\frac{7}{8}$ of an inch in diameter.

The views of Dr. Simpson on placenta prævia are here fully repro-

duced, and derive additional interest from being brought within the reach of the profession, simultaneously with the prize Essay of Dr. Trask.

We had an opportunity of witnessing the removal of the placenta by Dr. S., in a young primipara but six months gone, and of convincing ourselves that no hæmorrhage took place from that time till the birth of the child.

That we have not been able even to mention the headings of all the chapters of value in this remarkable book, can readily be understood; but we trust that we have done enough to shew the reader that we presented at the outset no exaggerated estimate of its value.

That the author may long live to advance the science of medicine, to charm the stranger with his graceful and refined hospitality, and ever to enjoy the—

"Honor, love, obedience, troops of friends,"

which now encircle him, is the heartfelt wish of the reviewer.

Geo. T. Elliot, Jr.

BIBLIOGRAPHICAL NOTICES.

Art. X.—*Army Meteorological Register, for Twelve Years, from* 1843 *to* 1854, *inclusive. Compiled from Observations made by the Officers of the Medical Department of the Army, at the Military Posts of the United States.* Prepared under the direction of Brevet Brigadier General Thomas Lawson, Surgeon-General United States Army. Published by authority of Hon. Jefferson Davis, Secretary of War. Washington: A. O. P. Nicholson, Public Printer. 1855. pp. 763.

The present magnificent volume is the fourth Meteorological Report emanating from the Surgeon-General's office since its creation, in 1818. The first registers seem to have been made in 1819, but it was not until 1821 that the Medical Department of the Army was fully organized, when it was made one of the duties of the surgeon "to keep a diary of the weather, and to note everything of importance relating to the medical topography of his station, the climate, diseases prevalent in the vicinity," etc., and transmit it quarterly to the Medical Bureau at Washington. The results of the observations for 1820 and 1821 were published at the close of each year; subsequently they were published in a series, the first volume embracing the years 1822—1825; the second, 1826—1830; the third, 1831—1842; the fourth, is the present volume, 1843—1854.

The instruments first used were only a thermometer and vane; the observations being limited to the temperature of the air, and course of the winds. In 1836 a rain gauge was added, and in 1843 the system of

observations was still farther improved, by increasing the number of daily observations, and supplying a more complete set of instruments.

The volume was compiled by Richard H. Coolidge, M.D., Assistant Surgeon of the U.S. Army, under the direction of Surgeon-General Lawson, and assisted by Lorin Blodget, Esq. The reduction of the vast amount of material which had accumulated during twelve years, was a task of no ordinary magnitude, as this ponderous quarto sufficiently attests.

The value of the present volume is greatly enhanced by a series of colored, isothermal charts, and hystal or rain charts, which exhibit the distribution of heat and rain in the several seasons, and in the aggregate over the whole surface of the United States and Territories. These charts were designed and prepared by Prof. LORIN BLODGET, who formerly was in charge of the Meteorological Department of the Smithsonian Institution, and who is one of the most able and enlightened cultivators of this branch of science in this country. We may here remark, that, while engaged in the Smithsonian Institution, Prof. BLODGET prosecuted with great diligence and success a system of investigation into American Climatology, which, if completed in the spirit and large conception which characterized its commencement, would have added immeasurably to the reputation of that nondescript institution, and in some degree have realized the grand idea of its founder. There are few who are qualified by natural bias, and subsequent studies, for the pursuit of dry statistical research; but such a student we believe Prof. BLODGET to be, and we confidently anticipated witnessing as the completion of his labors a complete treatise on American Climatology. We deplore the loss which Science sustained in the summary ejection of this officer from that institution, and the sudden termination of his laborious investigations.

We can but regard it fortunate, however, for the Surgeon-General, that in the preparation of this volume he was able to secure the assistance of so competent a person as Prof. BLODGET, and it may be considered still more fortunate for Science that the latter has been able, through the liberality of the former, to give publicity to some of the results of his research.

The concluding portion of the work, consists of a report upon the distribution of heat and rain over our territory, based on the returns to the Department, and as illustrated in the charts. This report is the most valuable portion of the volume, and distinguishes it from its predecessors.

ART. XI.—*Practical Treatise on the Diseases of Children and Infants at the Breast.* Translated from the French of M. BOUCHUT, with Notes and Additions by P. H. BIRD, F.R.C.S. John Churchill, London; S. S. and W. Wood, 261 Pearl-street, New York.

THE frequent sickness, and great mortality of early life, and the fact that the pathology of childhood is peculiar and obscure, render a

work like this a very valuable addition to medical literature. The French physicians possess facilities for the study of diseases, not found in any other country, and their publications, especially as regards symptomatology and the means of diagnosis, are vastly superior to those emanating from any other source.

The Treatise of Bouchut extends to upwards of seven hundred pages. It is enlarged to this size, not by verboseness and speculations, but by the multitude of important and useful facts it contains. Unlike any other work of the kind yet published in our language, it treats especially of the diseases of infancy, or of the nursing child, and with such completeness as will afford essential help to the physician in this vexatious and disheartening branch of practice.

In *Part I.*, consisting of seven chapters, Bouchut treats of the hygiene, and physical education of young children.

Part II., consisting of eight chapters, relates to the general pathology of infancy.

Part III., consisting of twenty-six books, and each book of from one to nineteen chapters, treats of the special pathology of infancy. The concluding pages contain a valuable formulary of medicines, which greatly enhances the value of the work. Parts I. and II., and many of the chapters in Part III., end with aphorisms, recalling and impressing the leading facts upon the memory. We will extract a few of these to give a better idea of the value of the publication.

Opening to the chapter on pneumonia, we find it concludes with thirty-three aphorisms, as follows:—

"Primary pneumonia, which is also called pneumonia d'emblée, is rare in children at the breast.

Pneumonia usually follows simple bronchitis, or bronchitis complicating fevers, or acute febrile diseases.

Primary pneumonia is usually lobar.

Consecutive pneumonia is always lobular.

Lobular pneumonia is sometimes discrete, sometimes confluent.

The pneumonia of children at the breast is almost always double, and usually attacks both lungs.

Lobar or lobular pneumonia is observed under two anatomical forms, slightly differing as to structure; these are intra-vesicular and-extra vesicular pneumonia.

Intra-vesicular pneumonia, usually primary, leads to congestion and thickening of the walls of the cells of the lung, with the formation of an internal plastic deposit, which constitutes the character of red and gray hepatization.

Extra-vesicular pneumonia, always consecutive, only produces congestion and thickening of the walls of the pulmonary vesicles, without fibrinous plastic secretion in the interior of these vesicles.

Chronic pneumonia, more common in the infant at the breast than in the adult, is always lobar.

Pneumonia often engenders the formation of fibro-plastic miliary granulations in the interior of the cells of the lung, in lymphatic and scrofulous children, or in the issue of parents tainted with scrofula.

The development of lobular pneumonia is favored by the crowding of children in the wards of a hospital.

Ordinary and frequent cough, accompanied by fever and anhelation, should make us fearful of an invasion of pneumonia.

Expiratory, groaning and jerking respiration is a certain sign of the existence of confluent lobar or lobular pneumonia.

Panting respiration, accompanied by a continual movement of the nostrils, is a sign of pneumonia.

Dullness of the chest is generally but slightly defined in the pneumonia of children at the breast.

When dullness of the chest exists in a young child with a very bad cold, pneumonia should be feared.

Dullness confined to one side of the chest in a young child rather indicates pleurisy than pneumonia.

The subcrepitant rale which accompanies the cough, the fever, and anhelation, confirm the diagnosis of confluent lobular pneumonia.

Bronchial respiration, which is rare in children at the breast, always belongs to lobar pneumonia, and sometimes to confluent lobular pneumonia.

Bronchophony, that is to say, the resounding of the cry, indicates that pneumonia has arrived at its last stage.

The exaggerated vibration of the thoracic walls at the time of the cries, indicates pneumonia, whilst their absence, on the contrary, points out the existence of pleurisy with considerable effusion.

The acute or moderate fever at first continued, presents numerous exacerbations in the course of pneumonia.

Primary pneumonia, or d'emblée, is less severe than consecutive pneumonia.

Pneumonia consecutive to simple pulmonary catarrh is often cured.

Pneumonia consecutive to measles, scarlet fever, small pox, is a very serious disease.

The pneumonia of children at the breast is, especially, a serious disease, in consequence of the complications which precede or follow its development.

The pneumonia of children at the breast has a great tendency to pass into the chronic state.

The pneumonia which is consecutive to the development of fibroplastic miliary granulations, or to tubercular granulations, is usually fatal.

Expiratory, groaning, and jerking respiration, accompanied by movements of the nostrils, announces that the life of the child is in great danger.

The swelling and œdema of the hands, or of the feet, which comes on in the course of pneumonia, indicates an approaching death.—(Trousseau).

The return of the secretion of tears, which has been suspended in the attack of pneumonia, is a good augury for its favorable termination. (Trousseau).

One or two leeches at short intervals, several blisters in front of

the chest, and doses of ipecacuanha, are sufficient for the treatment of simple acute pneumonia."

The above quotation is a fair sample of the work. While the author enters so minutely into the investigation of the diseases of early life, the remedies he directs are few and simple. There can be no doubt that a large proportion of children treated are sacrificed by ignorant and tentative medication; and he will do an invaluable service, who will throw such light on the complaints of early life as to facilitate their diagnosis.

M. Bouchut has treated of many diseases entirely omitted, or but cursorily noticed, in our standard works in this branch of medicine, and we predict for his labors a favorable reception and lasting popularity.

ART. XII.—*A Practical Treatise on the Diseases of the Testis, and of the Spermatic Cord and Scrotum.* With numerous Wood Engravings. By T. B. CURLING, F.R.S., Surgeon to the London Hospital, etc., etc. Second edition; revised and enlarged. New York: Hippolyte Bailliere, 290 Broadway, 1856. pp. 519.

Observations on the Diseases of the Rectum. By T. B. CURLING, F.R.S., Surgeon to, and Lecturer on Surgery at, the London Hospital. Second edition; revised and enlarged. London: John Churchill, New Burlington Street, 1855. pp. 129.

THE work of Mr. Curling on the testis has been a standard authority with surgeons in this country since its publication. The first edition was issued as long since as 1843, a period of time embracing some of the most important discoveries in medicine. A new edition of this work was, therefore, called for, not less from the exhaustion of the former edition, than the numerous improvements of which it was susceptible.

Our knowledge of Mr. Curling's industry in the investigation of the diseases of the testis, and his ability to render his work a complete exponent of the present state of knowledge of the disease of this organ, led us to anticipate with much interest the appearance of the present edition of his treatise. A careful examination of the work confirms our impressions of its character. New chapters have been added; subjects have been so condensed as to give late discoveries and improvements, without adding to the bulk of the volume; while every portion bears the marks of careful revision.

The first 50 pages are devoted to the development of the testis and its abnormities. The section on *Imperfect Transition of the Testicle*, contains some facts of practical importance. It was the opinion of Hunter that the undescended testicle was in a more imperfect condition than that which had reached the scrotum, and this imperfection was a cause of its remaining in the abdomen. It appears, however, after careful examination of specimens, that the undescended testis is in a healthier state than when lodged in the inguinal canal. In the latter position it is liable to injuries, and is frequently found atrophied. Herein lies a practical question: In a case of undescended testicle,

complicated with a hernial protrusion, shall a truss be applied? This question came before the *Section on Surgery* of the *New-York Academy of Medicine*, several evenings since, and various opinions were expressed. Mr. Curling very positively advises the application of the truss, and for these very good reasons:—If the testicle does not appear in a year from birth, its descent will be imperfect, and, while lodged in the inguinal canal, it will be subject to injuries, and thus become a constant source of annoyance to the patient. He would even go further, and advise the application of the truss to retain the testis in the abdomen, though no hernia were present. Several cases are given, showing how liable the testicle is to severe injuries while in the inguinal canal, and giving rise to false diagnoses. We recollect one instance where the patient was subjected to the treatment for hip joint disease, the nature of his difficulty not being understood.

Inversion of the testicle is an abnormity which it is well to remember. In this case, the free surface presents posteriorly, and the epydidymis anteriorly. Maisonneuve first called attention to this arrangement, and states that he has often met with it. Ricord has also often noticed it.

The subject of *hydrocele* is treated in Chapter IV. at great length, and in all its various phases. Considering the difficulty often attending the diagnosis of hydrocele, when complicated with other affections, as hernia, etc., we deem this one of the most valuable chapters in the work. Orchitis is another disease which the author discusses at length, and in a very practical manner.

The chapter on encephaloid disease of the testicle contains some interesting facts from the prize essay of Mr. Ludlow on the *Diseases of the Testis*. Mr. Curling extracts the following table, showing the frequency of cancer of the testicle at different ages:

Before the age of	5	5	cases.
From the age of	15 to 20	1	"
" "	20 to 30	11	"
" "	30 to 40	22	"
" "	40 to 50	6	"
" "	50 to 70	6	"
	Total,	51	

This is, therefore, a disease of middle life. Its frequency in infancy is remarkable; as also the great exemption of the period of adolescence.

The tendency of this disease to return after extirpation, is very great. The following table, also from Mr. Ludlow's essay, illustrates this fact:—

From 3 months	to	6 months	7	cases.	
" 6 "	"	12 "	2	"	
" 12 "	"	18 "	4	"	
" 18 "	"	2 years	5	"	
" 2 years	"	3 "	4	"	
" 4 "	"	10 "	1	"	
		Total,	23		

We cannot further notice the contents of this volume, nor, indeed, is it necessary, as the author and the former edition are too well-known in this country to require such introduction.

Mr. Curling's *Monograph* on the *Diseases of the Rectum*, though now in its second edition, is of much more modern date, having been first issued in 1851. It is a work of much less pretension than that on the *Testis*, but, like the latter, is very complete in its practical details. The Chapters on Hæmorrhoids and Stricture of the Rectum, are especially well written. Indeed, we know of no author whose practice is more rational, and who has a happier facility of expressing his views than Mr. Curling.

There is one circumstance, however, in connection with the issue of these works, to which we desire to call the especial attention of our readers. The volumes before us are the foreign editions, brought out in the usual excellent style of English typography; and are now supplied to the American physician by the Messrs. Bailliére, of New York, *at the same price as the reprint.* We depart from our usual custom to notice this fact, because we know that many medical men, who desire always to place in their libraries the best editions, and who, consequently, prefer the original English editions, are precluded from purchasing them by the comparative high prices of the original over the reprint.

ART. XIII.—*Clinical Lectures on the Diseases of Women and Children.* By GUNNING S. BEDFORD, A.M., M.D., Professor of Obstetrics, the Diseases of Women and Children, and Clinical Midwifery, in the University of New York. Third edition, carefully revised and enlarged. New York: S. S. and William Wood, 261 Pearl-street, 1856.

WE were not more surprised than gratified to receive an announcement of the issue of a third edition of this work. Within the short space of nine months from its first appearance, two editions have been exhausted, and a third is now demanded. This latter the author has taken great pains to revise and improve, as will appear by the addition of a whole lecture, and a lengthy appendix, exhibiting the sequel of a large number of cases, the history and treatment of which were previously given in the body of the work. These additions amount to about forty pages, and greatly enhance the practical value of the volume.

It only remains for us to express our gratification at the favorable reception which this work has met from the medical press of this and foreign countries, and especially from the profession at large.

ART. XIV.—*Clinical Lectures on Surgery.* By M. NÉLATON. From Notes taken by WALTER F. ATLEE, M.D., Philadelphia: J. B. Lippincott, & Co, 1855. pp. 755.

WE learn from the preface of this work, that it contains the notes taken by the author of the remarks of Nélaton during the years 1851-52-53-54, upon cases to which attention was particularly directed. With how much fidelity Dr. Atlee reports the views of this distinguished

surgeon, we have no means of judging. As the notes of the former do not seem to have been submitted to the latter for correction, we can consider them only, in the main correct.

The range of subjects treated of in this volume is very great; comprising, in fact, almost every variety of surgical accident or disease. We have burns, contusions, cancer, tumors, abscesses, fractures, luxations, necrosis, affections of the blood-vessels, articulations, eye, head, nose, maxillary bones, lip, tongue, breast, anus, rectum, genital organs, bladder, etc., etc. The arrangement of subjects, however, is good, and, by grouping them properly, all confusion is avoided.

The work, as a whole, we regard as a very creditable performance on the part of the author; and can recommend it cordially to the practitioner of surgery.

ART. XV. — *Principles of Human Physiology*, with their chief applications to Psychology, Pathology, Therapeutics, Hygiène, and Forensic Medicine. By WILLIAM B. CARPENTER, M.D., F.R.S., F.G.S. A new American, from the last London, edition, with two hundred and sixty-one Illustrations. Edited, with Additions, by FRANCIS GURNEY SMITH, M.D. Philadelphia: Blanchard and Lea, 1855. pp. 902.

THERE is not, we are persuaded, in the whole circle of medical authors one more indefatigable than Dr. Carpenter. In the series of physiological works which he is now completing, we have a stupendous monument to his learning, genius, and ceaseless industry. The science, to the cultivation of which he has devoted the energies of his body and mind, is so rapid in its development, that no discovery admits of being stereotyped. The issue of successive editions of his works does not imply, as is often the case, that they are simple reprints. On the contrary, although several editions of this work have already been published, each revised and corrected, "the present edition has been remodelled to an extent which renders it almost a new work."

We cannot specify the additions that have been made to this volume, but will simply say, that, on careful examination, we find them numerous and highly important. The volume is, in truth, a complete encyclopædia of the present state of human physiology.

ART. XVI.—*A Practical Treatise on the Diseases of the Eye* By WILLIAM MACKENZIE, M.D., Surgeon to the Glasgow Eye Infirmary, etc. To which is prefixed an Anatomical Introduction, explanatory of a horizontal section of the human eye-ball, by THOMAS WHARTON JONES, F.R.S., Professor of Ophthalmic Medicine and Surgery, etc. With one hundred and seventy-five Illustrations. From the fourth revised and enlarged London edition, with notes and additions by ADDINELL HEWSON, A.M., M.D., Surgeon to Willis' Hospital for Diseases of the Eye, etc. Philadelphia: Blanchard and Lea, 1855. pp., 1027.

THIS treatise has since its first issue been a standard authority in ophthalmic medicine. The publication of a fourth edition gives the best assurance of its practical character.

PART THIRD.

MEDICAL RETROSPECT.

PRACTICAL MEDICINE.

The Influence of Occupation on Mortality.—The attempts hitherto made to determine the influence of professions on health are greatly reduced in value, in consequence of the inadequate data on which they are based. If Ramazzini and Thackrah could have known the facts of the last Census, the observations resulting from their scientific and benevolent labors would have had the authority of natural law. That Census sheds the light of statistical truth on the relation of professions and occupations to mortality, and brings out truths which no less extensive investigation would enable the most sagacious observer to anticipate.

It will be an incalculable advantage to obtain, by means of the next Census, a scientific deduction as to the effect of each kind of occupation on mortality. As the initial step has been taken, we may expect it will be followed by others, in a path which, if beset with difficulties, cannot be traversed without leading to the most important and beneficial discoveries.

The last Census Report gave the number of persons in each occupation in 1851, and the Fourteenth Annual Report of the Registrar-General shows the numbers in those occupations dying at corresponding ages. In this early attempt to arrive at the ratio of occupation to the rate of mortality, it has been found that a difficulty arises from the want of definition of the various occupations, sufficiently clear and determined—a difficulty which can be overcome by giving more detail to future Census operations. It is, for example, found impossible to distinguish the rate of mortality among the different classes engaged in the manufacture of silk, of cotton, of linen, and of woolen, as great numbers of them are grouped together under the designation of "Weavers." "Miners," whether in lead, iron, copper, or coal mines, fall under one general designation; and "Laborers," in the field, or railways, in quarries, and on the roads, are not distinguished from each other in the registers.

Still, there are certain occupations sufficiently defined to obviate all danger of their being confounded, and whose rate of mortality can now be recorded with certainty. We give these classes at the decen-

nial period, ranging from 45 to 55 * as arranged in a Table (XVIII.) which shows the advancing rate of mortality in twelve occupations.

1. *Farmers.*—Of the twelve classes under consideration, Farmers are the longest livers, their rate of mortality being not quite 12 in 1000 (11·99). The number of English farmers of all ages in 1851, including 2429 graziers, was 225,747, of whom there were 53,608 between the age of 45 and 55. In that year, the total number of deaths among farmers of all ages was 6426, very much below the numbers which would have been registered had these individuals been engaged in other pursuits. These facts prove that the pure air, the daily exercise, the substantial fare, and the other aids to health enjoyed by this substantial class, considerably modify the influence of unfavorable weather, bad seasons, open ports, peculiar burdens on land, and all the other ruinous things which farmers' friends have been accustomed to depict in such gloomy colors.

2. *Shoemakers* hold the next place to farmers, their rate of mortality between 45 and 55 being 15·03 in 1000. They are followed by—

3. *Weavers*	15·37	in 1000.
4. *Grocers*	15·79	"
5. *Blacksmiths*	16·51	"
6. *Carpenters*	16 67	"
7. *Tailors*	16·74	"
8. *Laborers*	17·30	"

As will be seen on inspection, there is among these seven occupations a gradual increase in the rate of mortality, which, considering their great diversity, is quite remarkable. The near approach of these occupations to each other in the scale of mortality, arises from the circumstance that they have peculiar dangers which tend to counterbalance each other. Thus it is to be noticed, that "the tailor is not exposed to the explosions which are fatal to the miner, and the laborer has exercise which is denied to the tailor."

Ascending this scale of danger we pass to—

9. *Miners*	20·15	in 1000.
10. *Bakers*	21·21	"
11. *Butchers*	23·10	"
12. *Innkeepers*	28.34	"

A great disparity is observable in passing from laborers into the class of miners, telling a tale of dangers, many of which result from criminal neglect. Between laborers and the last four classes in this table there is a most remarkable hiatus. In the classes previously noticed, the difference in no case is more than one in a thousand, and in some instances less Here the difference begins with three, and mounts up to nine, in a thousand.

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* The decade from 45 to 55 is the only age to which the Census Returns have been applied in the Fourteenth Annual Report of the Registrar-General. We shall have still more important results when these returns are applied to earlier ages.

The returns show that the highest rates of mortality are found among the butchers (23·10 in 1000), and the class of Innkeepers and licensed victuallers (28·34 in 1000).

The extraordinary mortality of butchers is a fact for which we are indebted wholly to the last Census. The "red-injected face" of the butcher, has produced a wrong idea as to the healthy nature of his occupation. This idea is now corrected by scientific induction, and proper sanatory means will overcome the evil thus brought to light. To quote the significant remarks in the report conveying this fact, here is an important problem for solution: "On what does the great mortality of the butcher depend? On his diet, into which too much animal food, and too little fruit and vegetables enter? on his drinking to excess? on his exposure to heat and cold? or, which is probably the most powerful cause, on the elements of decaying matter by which he is surrounded in his slaughter-house and its vicinity?"

If the rate of mortality among innkeepers, licensed victuallers, and beer-shop keepers should be seized with avidity by the advocates of teetotalism, they must not be forbidden its use; at the same time they must be reminded, that "many highly respectable men of this class lead regular lives, and are of steady habits; but others, exposed by their business to unusual temptations, live intemperately and enjoy less quiet at night than the rest of the community. They are exposed also to zymotic diseases, by intercourse with large numbers of people."

Startling and painful as are these disclosures, they cannot be too widely published. They have a practical value among those who deal with the averages of life, for commercial or benevolent purposes; while, to those more specially concerned, they show the necessity, for their own safety, of employing the measures by which unnecessary disease and premature death may be obviated.—*Med. Times and Gazette.*

On Treatment of Intermittent Fever by Iodide of Potassium. By E. F. Sankey, Esq.—Sir:—Ever since I have resided in this village (now for five years), I have been dissatisfied with the usual treatment of ague by quinine, as in some cases the disease yielded to that remedy, and in others did not. But I could think of no other treatment likely to be successful, though I tried many, including arsenic, till, some three years ago, I read in a number of the *Medico-Chirurgical Review* (I forget which) that the German pathologists considered that congested spleen (ague cake) was the cause, and not the effect, of the disease; and I remembered that Dr. Williams had written on the efficacy of bromide of potassium in such a lesion; but, not having that drug in my surgery, I determined to try the iodide of potassium instead, in the next case of ague that came before me, intending, if that failed, to procure the bromide. But I am happy to say that the object of my writing is to state to my professional brethren that I have used the iodide of potassium now in considerably more than a hundred cases, and have never yet failed in curing the disease very quickly. In some cases, where the disease has been of long standing,

and the patient very much reduced, I have added a grain or two of quinine to each dose of the iodide of potassium; but my general prescription has been for an adult:—

℞ Potas. iodid. ʒiss; aquæ menth. pip. ℥xij. M. Coch. mag. ij. 4tâ quâque horâ sumend.

So that there could be no doubt what was the remedy that cured the disease. In proof of the value of this drug, I will only mention one case out of all that I have thus treated.

Mrs. Smith, aged 50, sent for me early last month, having suffered from tertian ague, off and on, since September. Not being in very good circumstances, she went to the wife of the clergyman of the parish in which she resided, who very kindly gave her some quinine, telling her it was no use sending for the medical man, as he *must* give her the same remedy. However, not getting well, she sent for me. After hearing what I have related, and finding that she had a tolerable pulse, her bowels open, and motions healthy, with a clean tongue, I sent her nothing but the above mixture; and she never had a return of the ague after the second dose she took of it.

I shall be glad if, by inserting this letter, other medical men will try this remedy, and report to you their experience.—*Association Medical Journal.*

On Myeloid and Myelo-Cystic Tumors of Bones: their Structure, Pathology, and Mode of Diagnosis. By Henry Gray, F.R.S.—The author detailed the history of nine cases of tumors of this form removed during life, with a minute description of the results of his own microscopical examination of six of the tumors. The results at which he arrived were as follows:—That these tumors were not of a malignant nature, although in several of the instances given they have been so regarded both previous to and after removal by operation; that, on the contrary, their minute structure bore the closest analogy with the normal constituents of the marrow and other elements of bone in the early periods of life; that their growth is confined to the osseous texture, or its investing membranes, the periosteum and dura mater; that they occur at a period of life when the normal constituents of the medulla exist in the greatest amount, and are developed in those parts of the osseous system in which those structures exist in a most distinct and well-marked form (all the cases given took their origin in the epiphysal ends of long bones); that they are occasionally mixed with the other elements of bone in a rudimentary state, as fibrous tissue and cartilage, and even with bone itself; that they may probably occur in any bone; that since they are thus found to consist of an abnormal amount of some of the normal constituents of the medulla cells, the name "myeloid" given to them by Mr. Paget is most appropriate (the author proposes to add the term "cystic" to such of them as present a mixture of cysts with the structure above described, and regards their fibrous element as most probably derived from the organization of lymph effused as the result of chronic inflammatory action, or from some abnormity in the development and

growth of the fibrous element of bone); that they occur in all the cases at present recorded at an early period of life, and that their growth is generally much less rapid than malignant disease, both which facts afford important diagnostic marks to distinguish them from malignant growths; that the absence of the malignant cachexia, of glandular lymphatic enlargements, and of diseased internal organs, combined with the facts that, although these tumors attain occasionally a considerable size, yet they present no tendency to ulcerate or obtrude externally, and generally retain some surrounding shell of bone within which they have grown, serve as additional aids to the surgeon in forming a diagnosis between myeloid and malignant growths; that they do not return when entirely removed; and that for all these reasons they are to be regarded as innocent tumors.—*Association Medical Journal.*

On Laceration of the Perinæum in Primiparæ. By T. Snow Beck, M.D.—I have before me the notes of one hundred and twelve cases of primiparæ, observed within the last five years, of which seventy-five, or two-thirds, had laceration of the perinæum through the whole extent; while in thirty-seven, or just one-third, no laceration took place. Unless this result had been fortified by notes made as soon as I returned home, and by the examination of the parts by the eye, as well as by the touch, I might have considered that some error had crept into these observations; but, with the precautions taken, I feel assured of the accuracy of the result, however contrary it may be to previous opinions.

The laceration apparently took place just as the head was extruded. The perinæum was perfect immediately before the head was expelled, and was lacerated after the birth of the child. In a few instances, by keeping the finger on the centre of the perinæum, it was felt to give way, to allow the head to pass; but in the great majority no indication of laceration was perceived until after the completion of parturition. In the interval between the extrusion of the head and the expulsion of the body, the parts were so much on the stretch, that it was impossible to determine with certainty whether laceration had occurred or not; but, as the shoulders passed without the least difficulty through an opening of sufficient size, it appears most probable that the laceration did not take place at this period, but had occurred previously.

Of the seventy-five cases in which laceration occurred, fifteen of these, or twenty per cent., healed by the first intention, and the perinæum was as perfect as before the confinement; while fifty-three, or seventy-five per cent., healed by granulation, and produced a more or less perfect perinæum. In not one instance has any inconvenience followed,—such as prolapsus of the uterus, bearing-down pains, etc.,—and in only one case was there any trouble attending the accident. This case was amongst the first observed, and while my mind was still imbued with the serious consequences which followed laceration of the perinæum. It did not heal by the first intention, and the granulations were small, and showed little inclination to unite into those of the opposite side.

I became anxious, applied different remedies, and, finally, the quilted suture. Nothing which was applied appeared to produce any effect, and the operation of the sutures was decidedly injurious. In the first instance, it frightened the patient; was a source of constant annoyance; produced irritation of the part; and, from the pressure of the silk inducing ulceration of the deeper structures, became loose, and was obliged to be removed. The laceration, however, gradually healed, leaving not more than a quarter of an inch of the rupture unclosed. In this case, the effects of the ligatures were such as to deter me from applying them on any subsequent occasion. In all the cases I have observed, neither the patient nor the nurse was aware that anything had occurred more than usual. The patient said she felt very sore, could not sit up in bed for some few days in consequence, and when she began to sit up out of bed, required a pillow, or some soft substance, to sit upon. But these were considered as "nothing more than usual on such occasions."

Little need be said of the thirty-seven cases wherein laceration did not occur, except that some, at least, were such as might, *à priori*, have been supposed likely to suffer from this accident. The patients were spare, and rather above the average size; the perinæum small in extent, firm, and somewhat unyielding. But in women with this conformation, scarcely one suffered from laceration, and then only when the size of the child was disproportionate to that of the pelvis of the mother; but when the perinæum was broad, thick, and soft, scarcely one escaped being torn through.

It, of course, will remain for further observation to determine whether these cases, taken indiscriminately from the practice of one physician, fairly represent the average occurrence of this accident in women confined with their first child. If it does, then laceration of the perinæum becomes the rule in such cases, instead of the exception; but, even if it does not, it yet shows that this accident is of much more frequent occurrence than has been supposed. These cases further show that when laceration does occur, this will heal perfectly by ordinary attention, rest, and cleanliness. Such, at least, must be admitted from the result of the seventy-five cases, every one of which has healed with little trouble, and none have been followed by any annoying consequences. From these facts we may, I think, advance a step further and conclude that, in cases where the laceration has extended through the sphincter ani, there is great probability that the laceration will heal, in many cases, by the natural process; and that time should be given for this purpose, before any operative procedure is had recourse to.

The majority of those females who form the subject of these observations, have been confined with the second, and several with the third, child; but in no instance has laceration again taken place, and in only one was there a slight tearing, during the birth of a large child, which soon healed. It would then appear that the cicatrix which follows a lacerated perinæum is less liable to give way during parturition than the natural structure of the part.

It is an acknowledged fact that severe laceration of the perinæum,

involving the sphincter ani, has not unfrequently occurred without the accident having been discovered until some time subsequently, by the inability of the patient to retain the motions, and other distressing consequences. And it is also known that tearing of the perinæum, up to the sphincter, has taken place, and has not subsequently healed. But we have no information as to the circumstances which have interfered with the healing process, which, these present cases appear to show, usually takes place. My own experience would lead me to conclude, that many cases may, and do, occur, without the medical attendant being aware of the accident. For, although my attention was specially directed to this point, yet several occurred wherein the laceration was not perceived until a careful examination of the parts had been made after the labor was completed. Had this examination, which is unusual, not been instituted, the accident might not have been discovered, either at the time, or subsequently, by reason of the strong tendency which appears to exist for the healing of any tearing or other injury to the generative organs of the female, when the process of parturition has been completed.—*Med. Times and Gaz.*

EDITORIAL AND MISCELLANEA.

The Sale of Patent Medicines a Violation of Law—Important Communication from the Clerk of the District Court of the Northern District of New York.—The following correspondence, which we now for the first time make public, clearly establishes the fact, that the traffic in patent medicines, one of the greatest curses from which the community suffers, by the imposition of empirics, is done under the most shallow pretence of legality. It has always been a mystery to us how honest men could be so heedless of public good, as to legalize the indiscriminate sale of such dangerous compounds as many of these nostrums are; but we here have explained the whole secret As might have been anticipated, from the character of the men engaged in their manufacture, the sale of these drugs is effected fraudulently.

We trust some measures will be taken to put a stop to the sale of these vile compounds, and bring to justice the violators of law, who poison public health and grow rich thereby. As these nostrums are not truly patented, the secret of their preparation being studiously withheld in defiance of the explicit declaration of our Patent Laws, we would suggest the passage of a law imposing a heavy penalty for the sale of "patented" medicines, when in fact they are not patented, and allow half the fine recovered, to the informer. It would be a truly philanthropic effort, worthy a Howard, or a Mrs. Fry, to secure the community from this terrible infliction of the sale and use of "patent" medicines.

We cannot sufficiently express our admiration of Mr. Conkling's

integrity and enlightened discharge of his official duties. For several years he has uniformly refused to grant these applications to patent labels, from a conscientious belief in the illegality of such proceedings, and a conviction of the worthless character of such compounds. During this time he has not only sacrificed the income which is due from such grants, but incurred the odium and bitter hatred of this miserable class of impostors. In behalf of the medical profession we tender our acknowledgments for the service which he has thus rendered directly to the community at large, and indirectly to legitimate medicine.

From the annexed "circular," it will be seen that Mr. Conkling's views of the Patent Laws, are indorsed by the State Department, and instructions in conformity therewith have been promptly issued by Mr. Secretary Marcy.—*Eds. New-York Journal of Medicine.*

BUFFALO, March, 1856.

Dear Sir:—Will you do me the personal favor to furnish me with a written statement of your views on the subject of copyrights for labels, etc., as expressed to me in a conversation yesterday.

Coming from a gentleman of your rank and position, I am certain that they would possess interest; and I would like to give them publicity through some of our Medical Journals.

Sincerely wishing that the public had many more such faithful servants,

I remain yours truly,

AURELIAN CONKLING, Esq. FRANK H. HAMILTON.

DISTRICT COURT OF THE UNITED STATES FOR THE NORTHERN DISTRICT OF NEW YORK, CLERK'S OFFICE.

BUFFALO, March 18th 1856.

DEAR SIR:—I am much obliged for the interest manifested by you in the subject with which I lately troubled you; and although it is probable that in your politeness you over-estimate the importance of the views expressed to you, and of those contained in my letter to the Hon. S. G. Haven, still it is possible that they may be useful to others, and I therefore will proceed to repeat them here, for such use as you may deem expedient. I am much pleased with the polite interest you manifest in the subject under consideration, because, I regret to say, I have heretofore experienced very different treatment from some persons who have found their way into your profession, and who not only so far forgot their professional obligations, as to manufacture nostrums, but were also guilty of low abuse of an officer whose sense of duty would not admit of his being made instrumental, improperly, in imposing their mixtures upon the public.

The immediate purpose of my letter to our representative in Congress, was to invoke the attention of the Department of State to what it seems to me is a great abuse and perversion of the provisions

of law in relation to *copyrights*. The subject of copyrights is under the general supervision and control of the State Department of the United States; and officers who have subordinate duties to perform must, to some extent, be subject to directions and instructions from that department. Applications are frequently made to me, to record, under the provisions of law above alluded to, labels of medicines, compounds, and mixtures, of different grades of pretension, from an "elixir of life" or a "diarrhœa cordial," to a hair-dye or a corn-salve.

Upon the occurrence of the first application of this sort, a number of years ago, being asked my reasons for refusing to treat the subject as one embraced in the provisions of the Act, entitled "An Act to amend the several Acts respecting copyrights," I made the following reply, a recital, in part of which, will express the views which have ever since governed me, upon the subject:

"I am sorry that my views of the Act of Congress, above mentioned are such as to interfere with your interests or wishes. It is not the province of the Clerk of the District Court to 'grant' anything. His duties are ministerial, and upon the subject of copyrights he is bound to do what he is directed to do, by the Act of Congress.

If I should record the *label* sent by you, and should send you a certificate of the fact, I would thereby 'grant' you nothing, nor would you gain anything, unless the Act of Congress embraces such a subject.

I have examined, with considerable care, the Act of Congress above mentioned, and I will state some of my views upon it; from which you will infer that I do not think proper to record a *label* under that Act.

My opinion is, that the 'map, chart, musical composition, print, cut, or engraving,' must have a value as such, and be intended for sale as such; that, whichever it may be, print, cut, or engraving, *it* must have a *title* applicable to itself, which title is to be recorded.

I am also of the opinion, that the Act of Congress was designed to promote the acquisition and diffusion of knowledge, and to encourage the production and publication of works of art, the general purpose being to advance the people in civilization and refinement.

I think, furthermore, that, by the Act to which I have referred, Congress did not intend to prevent the imitations of the stamps and labels of any manufactured article, or goods, or merchandise. That is a subject of such extensive interest and importance, that, if it had been the intention of Congress, to embrace it in the provisions of the law, that intention would have been distinctly and unequivocally manifested. It is not likely, however, that such a provision by Congress will ever be found so much out of place, as it would be in 'An Act to amend the several Acts respecting *copyrights*.'

Furthermore, I am quite certain that Congress did not intend that this Act should be so prostituted, as to be made instrumental in deluding the ignorant and inconsiderate, into the purchase and use of the various nostrums, catholicons, and panaceas, which are so much worse than useless to the community."

It is the practice, I am informed, in many of the Judicial Districts, to make records of such labels as are above mentioned, and I suppose

it is done to avoid the trouble and ill-will engendered by a refusal. It is entirely clear, however, that such a practice is not in accordance with the intention and design of the Act of Congress above mentioned; and I have no doubt that if the mischiefs of the practice were realized, it would be discontinued.

The course of proceeding above mentioned is that by which almost the whole number of the miscalled "patent medicines" are brought forth. It would seem to be unnecessary to state, that there is no force or validity whatever in this proceeding, for such pretended purpose.

There are means provided in the Patent Laws, for securing to any individual the exclusive right to "any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvement on any art, machine, manufacture, or composition of matter," which he may invent; and the necessary requirements in order to accomplish the purposes are clearly and definitively prescribed, as follows:—"But before any inventor shall receive a patent for any such new invention or discovery, he shall deliver a written description of his invention or discovery, and of the manner and process of making, constructing, using, and compounding the same, in such full, clear, and exact terms, avoiding unnecessary prolixity, as to enable a person skilled in the art or science to which it pertains, or with which it is most nearly connected, to make, construct, and use the same."

The Act also provides that the inventor shall accompany his application "with specimens of ingredients, and of the composition of matter, sufficient in quantity for the purpose of experiment, where the invention or discovery is of a composition of matter." The Act also provides, that the applicant shall make oath, that he does not know or believe that the composition of matter was ever before known or used. These and the other requirements of the law being complied with, provision is made for a critical examination into the merits and character of the alleged invention; and, "if the commissioners shall deem it to be sufficiently useful and important, it shall be his duty to issue a patent therefor." This, it will be perceived, is a very different course of procedure from that of filing a label in the clerk's office; and a label, not even indicative of the character of the compound it is to cover. The law, it will be perceived, provides for a truthful statement of the ingredients and proportions of every patented compound. The purpose and effect of the provision are two-fold. In the first place, the means are afforded for an intelligent and careful examination into the compound, in order to determine whether it is worthy of the countenance of the government; and, secondly, after the termination of the duration of the privileges, secured by the letters-patent, the necessary knowledge is at hand, to make the invention directly available to the public, by furnishing to all, a knowledge of its ingredients and mode of preparation. Moreover, the "letters-patent" themselves, in accordance with their true purport, contain a plain statement of these particulars. There is something *open* in these requirements, and in the whole course of proceeding marked out in relation to patents, and the fact is, just as one would suppose, that there are really very few "patent medicines." The medicines sold as such, are, nearly all of

them, utterly destitute of any real basis for the pretense under which they are imposed upon the public.

If the practice of recording labels of medicines shall be discontinued, in the clerk's offices, one important step will be taken towards clearing away the delusion which prevails upon the subject. And if your profession, with that true regard for the general public good which characterizes its *worthy* members, will take the subject in hand, I have no doubt that you can obtain the enactment of penalties against the sale of any medicines under the pretense that they are, when, in truth, they are not, patent medicines. There has been legislation to prevent the adulteration of medicines; but, it seems to me, that it is a more important end to shield the people against the miserable mixtures, which, as things are now managed, are, by the apparent encouragement of the government, imposed upon them. I regret, Dear Sir, that this letter has necessarily been so hasty; I do not mean, however, to intimate that its positions are not deliberately taken.

Very respectfully,
Your obedient servant,
AURELIAN CONKLING.

DR. FRANK H. HAMILTON,

CIRCULAR.

DEPARTMENT OF STATE,
WASHINGTON, April 11, 1856.

Mr. ---------,

Clerk of the District Court of the United States.

SIR:—The Act of Congress approved February 3, 1831, entitled "An Act to amend the several Acts respecting copyrights," is "An Act for the ENCOURAGEMENT of LEARNING, by securing the copies of maps, charts, and books, etc., to the authors and proprietors of such copies;" and, inasmuch as mere LABELS are not comprehended within the meaning of said Act, you will, for the future, refuse, in all cases, to record or issue a certificate for the same under said Act.

I am, Sir, very respectfully,
Your obedient servant,
W. L. MARCY.

Report of the Committee on Tenant Houses in New York.—The Special Committee appointed by the Legislature of the State of New York, to examine into the condition of the tenement houses in New York and Brooklyn, have presented the following interesting Report:

That, in accordance with the above resolution, they proceeded to New York on the 15th March, and again on the 22nd March, and spent, on the first visit, three days, and on the last four days, in a personal inspection of some of the best-known tenant-houses in the City,

and in receiving from the proper authorities such information connected therewith as it was in their power to furnish. In the brief space of time allowed them for the investigation, your Committee have been enabled to do no more than to glance at evils of such magnitude as to imperatively demand a thorough and searching scrutiny; and they are sensible that their labors will be unattended by any particular result, unless they succeed in impressing upon your honorable body a conviction of the necessity that exists for an extension of their powers, with a view to perfecting some plan of reform upon which future legislation may be based.

At this late period of the session, and when legislative action cannot be taken, it would be a needless encroachment upon your time should your Committee lay before you in detail all the facts they have elicited, and all the sights they have witnessed, in the exploration of the haunts of misery, poverty, and vice in the metropolis. They deem it sufficient for their present purpose to state, generally, that the examination they have made has convinced them that the evils sought to be remedied are of a serious nature, requiring the attention of the State Legislature, and demanding such action at the hands of the present Assembly as will secure their ultimate removal.

In order, however, that your honorable body may appreciate the magnitude of these evils and the injurious influence they must exert upon the prosperity, health, and happiness of the community, your Committee deem it expedient to set before you the following condensed facts:

Partial returns, made up hurriedly by the captains of police for the use of the Committee, show that in twenty-two districts there are over one thousand two hundred tenement-houses, of the lowest description, occupied by not less than ten families each. In some of these as many as seventy different families reside; and into a few, over one hundred families are crowded. A number of these dwellings were visited by your Committee. In one building one hundred and twelve families are gathered, some of them numbering eight or ten members, occupying one close apartment, and others huddled indiscriminately in damp, foul cellars, to breathe the air of which is to inhale disease. Here, in their very worst aspect, are to be seen the horrors of such a mode of living. Here are to be found drunken and diseased adults of both sexes lying in the midst of their filth; idiotic and crippled children, suffering from neglect and ill treatment; girls, just springing into womanhood, living indiscriminately in the same apartment with men of all ages and of all colors; babes left so destitute of care and nourishment as to be fitted only for a jail or hospital in after years, if they escape the blessing of an early grave. Indeed, no language could faithfully depict the suffering and misery witnessed even in the hurried visits paid by the Committee to these hotbeds of immorality, drunkenness, debauchery, and disease.

In the Ninth District, out of seventy houses reported by the Captain of Police as being let in tenements to not less than ten families, forty are designated as in a very filthy condition, unfit for human habitation, and all of these are occupied by from sixteen to thirty-five

families each. In the Tenth District, out of seventy-six houses, several are occupied by as many as seventy distinct families, and are reported as in a filthy condition, without ventilation, and destitute of the accommodations necessary for the use of civilized beings. In the Eleventh District, in which are some seventy houses of a like description, the report says:—"Of all the tenement houses in the district, Folsom Barracks and the Cottages are the most wretched and filthy—alike disgraceful to the owners of the property and the city that tolerates such nuisances. It could not fail to be a matter of surprise to any one who would go through and examine them, that the occupants did not all die of pestilence generated by their unspeakable filth and dissolute habits of living."

In the Thirteenth Ward, in a building known as Manhattan-place, there are ninety-six separate apartments. These are inhabited by 146 families—or more than one family and a-half to each room—numbering in all 577 persons—or about six individuals to each single room. The report of the Health Warden, setting forth these facts says:—"These premises are three stories high, the cellars are in a bad condition, the sinks filthy, and the ventilation poor. In the summer season, these premises are known to be very filthy, and not the least attention is paid to them whatever by either owner or agent—the sole aim apparently being to make money, exhibiting in the same an entire disregard to all law whatever."

In the houses visited by your Committee, sights were presented to them alike startling and painful to behold. In many, whites and blacks were living indiscriminately together—negro men with white women, and white men with negro women. Young faces, haggard with want, and bearing that peculiar look of premature age, imparted by early sin, peered at them from every corner; misery and vice in their most repulsive features met them at every step. Scarcely an apartment was free from sickness and disease, and the blighting curse of drunkenness had fallen upon almost every family. Here and there might be found, it is true, some attempts at cleanliness, some display of a love of home, some evidence of industry and sobriety, with their internal accompaniments, cheerfulness and good health. But these, your Committee found, were, in most instances, families that had not long been inhabitants of the neighborhood in which they lived. The demoralization and ruin apparent all around had not had time to do their work on them. It is to be feared that too soon the miasmal air will creep into their systems, undermining the sturdy constitution, and prostrating its victims on a bed of sickness. Health failing them, want will follow; and then must come crowding rapidly upon them, neglect of home, neglect of children, uncleanliness, drunkenness, and sin. This is no fancy sketch—no future of the imagination. It is a stern reality—enacted every day in the midst of luxury and wealth—the natural and fearful result of the rapacity of landlords in an overcrowded city, unrestrained by conscience, and wholly unchecked by legislation.

Many of the buildings that are thus rented to the poor realize for their owners larger annual incomes than do the first-class dwelling-

houses in the best parts of the city. And yet they are estimated by the assessors as almost valueless, and escape anything like a fair taxation, notwithstanding they are the principal cause of the heavy burdens imposed upon the citizens of New York for the support of the criminal and the poor. This is of itself a forcible argument in favor of some active legislation upon the subject of tenement houses.

In these buildings, thus crowded with human beings, there is, with scarcely an exception, but one narrow stairway; and egress to the multitude inside, in case of fire, is an impossibility. Common humanity demands some law against this evil.

Every underground cellar in these tenement buildings, that is not absolutely flooded by water and filth, is made a lodging-room for one or more wretched families. All of these are destitute of any species of ventilation; in most of them the floors are thick with putrid mud, and the pipes and sinks communicating with them from the upper apartments, give out their offensive and deadly gas, and pollute the air of the whole neighborhood. One of the provisions of a law regulating these matters should be directed against permitting an underground apartment of any description to be rented or used as a tenement.

It would be an unnecessary encroachment upon your time to present in detail, the numerous suggestions made by practical builders, and by the Police and Health Officers of New York, who appeared before your Committee, in reference to the best mode of effecting the much-desired reform in the construction and management of tenement-houses, with a view to removing the evils resulting from their present filthy and dangerous condition.

It is sufficient to say, that, in every instance, they concurred in recommending legislative action at the earliest possible moment, and that they were unanimous in the opinion that only through the interference of the Assembly, and the passage of some law regulating the style of tenement buildings, and providing for their management, could the existing evils be properly reached, or effectually remedied. In the views of these parties the entire New York press has concurred; for there is not a paper published in the city that has not warmly approved of the object, for the attainment of which the Committee was formed, and urgently recommended a continuance of its powers during the recess of the Legislature, and until some definite plan of reform has been perfected, to be submitted to the next Legislature for action.

The members of the Legislature, very properly, desirous of protecting the State against needless expenditures, are apt to oppose the extension of a Committee's powers after the adjournment, but your Committee would be remiss in their duty did they fail to urge upon your honorable body the necessity that exists for such action, in the present instance. That the evils complained of really exist, no person will deny. That they need the interference of the Legislature for their removal, all will admit. If the matter should be now ended for the present year, the expenditure that has been thus far incurred would be comparatively wasted, and the next Legislature would, doubtless, appoint a new Committee, who would be compelled to commence the work

anew, and would, in all probability, be unable to accomplish any result during the brief space of time they are enabled to devote to the subject during the session. The expense that would attend the probably fruitless labors of a new Committee, appointed next year, would suffice to enable the present Committee, during the recess, to make a thorough investigation of the matter, to mature a well-considered plan of reform, and to prepare a bill upon which the succeeding Legislature will be able to act.

Indeed, no expenditure that could be incurred in securing the removal of the evils complained of, could be at all commensurate with the benefits and the saving that would result therefrom. To the wretched condition of the dwellings of the poor of New York, can be traced an enormous proportion of the burdens imposed upon the property-holders of the city, and upon the State at large, for the support of paupers and criminals. From the foul atmosphere of the tenement-houses, spring the infectious diseases that so frequently spread through the city, sweeping away thousands, and not confining their depredations to the class with which they originate, but penetrating into the localities occupied by the wealthy, and rendering desolate many a happy household. Hundreds upon hundreds of paupers pour into the hospitals stricken by disease, contracted in these hotbeds of pestilence. From them drunkenness mainly receives its victims; for what will sooner drive men to the intoxicating cup than an absence of all attraction and comfort from his home? From them the brothels of the city are peopled; for the female is early taught to forget all womanly feeling, and inured to a life of shame. From them the jails are supplied; for they are the natural haunts of felons. It is no idle assertion to say, that a reform by which the condition of the homes of the poor could be improved, would remove a large proportion of the criminals from our prisons and the paupers from our almshouses. In London, since the model lodging-houses have been in existence, together with baths and wash-houses for the poor, the mortality has decreased thirty-one per cent., and pauperism thirty-nine per cent. A similar result would attend a similar reform in New York.

The practical results which your Committee will endeavor to secure through legislative action, and to which their inquiries will be directed, are:—

Ventilation and cleanliness in tenement-houses, so that the public health may be protected, the spread of infectious diseases checked, and the expenses of public hospitals and almshouses decreased. –

An enactment against permitting the renting of under-ground apartments or cellars as tenements.

Regulations as to building halls and stairways in houses occupied by more than three families, so as to insure easy egress in case of fire.

The prevention of prostitution and incest, by providing that only a sufficient number of rooms, or a room properly divided in separate departments, shall be rented to families, and prohibiting sub-letting.

The prevention of drunkenness, by providing to every man a clean and comfortable home.

In conclusion, your Committee would state, that as they are all residents of New York, or its immediate neighborhood, the expenses attending their labors during the recess would be comparatively trifling, and they therefore beg respectfully to submit, for the consideration of the House, the following resolution:—

Resolved, That the Special Committee appointed to examine into the condition of the tenement-houses in New York and Brooklyn, have power to extend their operations during the recess of the Legislature, so far as is necessary to enable them to perfect some plan of reform. and to prepare a bill for the consideration of the next Legislature, some time during the first week of January, 1855.

JOHN M. REED, Ch.,
A. J. H. DUGANNE,
WILLIAM J. SHEA,
ELI CURTIS,
SAMUEL BREVOORT,
} Committee.

Auscultato-Percussion.—The Charleston Med. Jour states, that an American physician, at Honolulu, Sandwich Islands, has discovered a new method of exploring the internal organs. It consists in applying a stethoscope over the organ examined, and while the auscultator listens, an assistant percusses the adjacent parts. The writer of the paragraph expresses his surprise that so simple a procedure has not suggested itself before. If he will refer to the *New-York Journal of Medicine and Surgery*, vol. iii., p. 62, 1840, he will not only find that this "simple procedure" has suggested itself before, but that, in a lengthened article, under the caption of *A New Mode of ascertaining the Dimensions, Form, and Condition of Internal Organs by Percussion*, two of the most eminent practitioners of this city, Drs. GEO. B. CAMMAN and ALONZO CLARK, thoroughly discussed this subject, and established, with precision, the rules by which it could be applied to physical diagnosis. We have rarely, however, seen justice done to their labors by contemporary writers.

Alexis St. Martin.—The well-known subject of Dr. Beaumont's experiments on the gastric fluid and digestion in the stomach, Alexis St. Martin, recently visited this city, in company with Dr. Bunting, of Montreal, and, at a meeting of medical gentlemen at Dr. Delafield's, he exhibited the opening into the stomach. It will be remembered that this opening was caused by the accidental discharge of a gun, in 1822, St. Martin being then eighteen years of age. In 1825 the experiments were first begun. During the time he submitted to the experiments of Dr. Beaumont, he states that his health declined; and as he suffered considerable inconvenience, he has so carefully avoided medical men since, that no one has been allowed, even to examine the wound, until he came under the charge of Dr. Bunting. He is now fifty-two years of age, in apparently rugged health, and has supported himself by hard daily labor since leaving Dr. Beaumont.

Lithographic Portrait of Dr. J. R. Wood.—We have received an excellent likeness of the accomplished surgeon whose article forms the leader in this number of the journal. The following correspondence, in relation to it, has been sent us for publication :—

New York, February 5, 1856.

Dear Sir :—At a meeting of the graduates and students of your class, the undersigned were appointed a committee, to solicit you to sit for an Ambrotype likeness of yourself for their use.

In asking this favor, we feel that your acquiescence would be another evidence of the kind consideration of one, whose character, both private and professional, has been an object of their highest regard, and whose untiring efforts for our professional advancement will ever be most gratefully remembered.

We remain, very respectfully,
Your humble servants,

W. F. Lindsay, *Chairman.*
Lyman Fisk, M.D., *Secretary.*
W. H. Nichols.
W. H. Clussman, M.D.
George F. Woodward, M.D.
Sylvester Teates, M.D.

To Dr. James R. Wood, No. 2 Irving Place.

New York, 2nd Mo. 8th, 1856.

Gentlemen :—Your favor of the 5th, requesting of me an Ambrotype likeness, for your use, was duly received.

Some years since, a similar request was made by some of my students; although feeling highly honored, for many reasons, I declined the honor at that time.

The renewed application of the graduates from my office and my present students, now compels me to grant your request.

I remain,
Very respectfully, yours,
James R. Wood.

To Messrs. Lindsay, Teates, Clussman, Nichols, Woodward, etc.

Prize Essay on Cholera Infantum.—The successful essayist for the prize of $100, offered by the *N. Y. Academy of Medicine*, for the best paper on *Cholera Infantum*, was James Stewart, M.D., of this city, author of the popular work on the *Diseases of Children.* Dr. Stewart, in acknowledging the award, generously directed that the sum be paid to the Treasurer of the Children's Nursery.

Cæsarean Section.—Dr. D. F. Owen reports (*Charleston Medical Journal*, March, 1856), a case in which the Cæsarean section was performed by Dr. W. H. Merinar, of Miss., for the third time on the same individual. A living male child was extracted. The mother died on the fifth day after the operation.

Report on Home Adulterations of Drugs and Medicines.—The following is a portion of the Report of the Committee of which Prof. Guthrie is Chairman, appointed by the American Pharmaceutical Association:—

The Committee do not design, at present, a full report, as there are still under their observation and that of others who have aided them in this matter, such articles as are usually met with. Some of more, some of less, importance—all, however, sufficiently so, we think, to merit attention and remark. They are mostly articles that have been found on sale in the interior towns and cities, purchased at the cities east, where most of the wholesaling is done. A few instances may be noticed:

Balsam Peru has been met with, possessing none of the characteristics of genuine balsam, except in color and consistency, and upon analysis, affording no cinnamic acid.

Pulv. Capsicum.—The sample examined had a brick-dust color, little pungency, and filled with yellow specks and strong odor of turmeric. It was a mixture of turmeric and American capsicum, and, of course, almost inert.

Castor is found with the follicles filled with saw-dust to half the weight of the castor.

Opium.—Since the circular of the Secretary of the Treasury, fixing a percentage of morphia for this drug, a more uniform quality has deen found in market; but a great many samples have been observed the past season with foreign substances, most commonly lead, inserted in the lumps, in some instances equal to twenty per cent. of the weight of the mass. We are of opinion that this was done abroad, and probably at the port whence shipped. The different examiners should seek to detect this fraud before passing it.

Topical Use of Calomel in Fistula in Ano.—Dr. J. J. Williams, of Sommerville, Tenn., reports (*New Orleans Med. and Surg. Journal*, Nov., 1855) a case of complete fistula in ano, which resisted injections of tincture of iodine, solutions of nitrate of silver, sulphate of copper, of zinc, etc., and which was cured by the introduction of calomel into the sinus. The calomel was inserted into a small tube, which was afterwards carried to the bottom of the fistula, and there the calomel was pressed out by means of a piston. In this way he filled the fistula full daily. In a short time a cure was effected.

Close of Medical Schools.—Since our last issue, the several Medical Schools of this city have closed their sessions. They are all in an unusually prosperous condition; the attendance being large, and the courses of lectures thorough and complete. The following is the number of graduates from the several schools:—College of Physicians and Surgeons, 39; University Medical College, 97; N. Y. Medical College, 35.

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